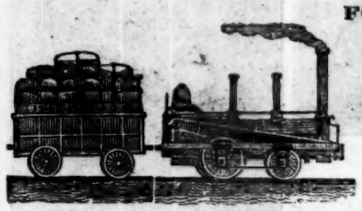
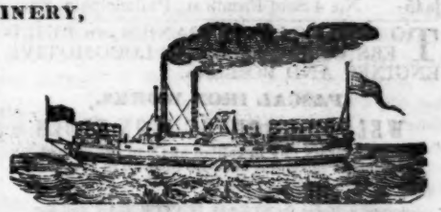
AMERICAN RAILROAD JOURNAL,

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY, AND MINES.





ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 23 CHAMBERS STREET, NEW YORK, AT THREE DOLLARS PER ANNUM.

SECOND QUARTO SERIES, VOL. I., No. 10.] THURSDAY, MARCH 6, 1845. [WHOLE No. 453, VOL. XVIII.

TO IRON MANUFACTURERS. THE SUBscribers, as Agents of Mr. George Crane, of Wales, having obtained a patent in the United States for his process of smelting Iron Ore with Anthracite coal, and holding an assignment of the patent obtained by the late Rev. F. W. Geissenhainer, are prepared to grant licenses for the manufacture of Iron according to Mr. Crane's principle.

A. & G. RALSTON & CO.,
ja45 No. 4 Sout Fronth st., Philadelphia, Pa.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ⅛ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.

Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

TO IRON MASTERS.—FOR SALE.—MILL SITES in the immediate neighborhood of *Bituminous Coal* and *Iron Ore*, of the first quality, at Ralston, Lyoming Co., Pa. This is the nearest point to tide water where such coal and ore are found together, and the communication is complete with Philadelphia and Baltimore by canals and railways. The interest on the cost of water power and lot is all that will be required for many years; the coal will not cost more than $1 to $1 25 at the mill sites, without any trouble on the part of the manufacturer; rich iron ore may be laid down still more cheaply at the works; and, taken together, these sites offer remarkable advantages to practical manufacturers with small capital. For pamphlets, descriptive of the property, and further information, apply to Archibald McIntyre, Albany, to Archibald Robertson, Philadelphia, or to the undersigned, at No. 23 Chambers street, New York, where may be seen specimens of the coal and ore.

W. R. CASEY, *Civil Engineer*,

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 feet, with lathes, work benches, &c.

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry. at end of main brick building, 60x45½ feet, two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

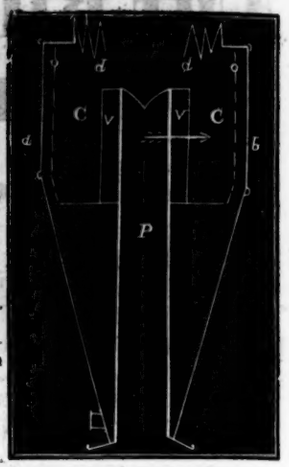
Also—A lot of land on the canal, west side of Parker st., containiug 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia. ja45

FRENCH AND BAIRDS PATENT SPARK ARRESTER.



TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

E. A. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, or to Messrs. Baldwin & Whitney, of this city, will be promptly executed.

FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

S. VAIL, PROPRIETOR OF THE SPEEDwell Iron Works, near Morristown, N. J., can supply at short notice railroad companies and others with the following:

Wrought Iron Tyres made from the best iron and of any given diameter, and warranted to be sound in the welding. Railroad companies wishing to order, will be pleased to give the exact inside diameter or circumference to which they wish the tyres made, and they may rely upon being served according to order, and also punctually, a large quantity in the straight bar is kept constantly on hand. Crank axels for locomotive engines, made from the best Pennsylvania iron. Straight axles for locomotives for outside connection engines. Frames for engines. Wrought iron work for steamboats, and shafting of any size. Cotton Screws of any length or size. Railroad Jack screws, a late invention, and highly approved. Self-acting pumping apparatus for railroad water stations. He refers to the following gentlemen:

Baldwin, Vail & Hufty, Philadelphia; Wm. Norris, Philadelphia; N. Campfield, Savannah, Ga.; J. & S. Bones, Augusta, Ga.; D. F. Guez, N. Orleans, La.; Adam Hall, N. York; J. P. Allaire, N. York; William Parker, Boston, Mass.; George W. Schuyler, N. York. ja4c

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars. Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
ja45 President of the Newcastle Manuf. Co.

CUSHMAN'S COMPOUND IRON RAILS, etc. The Subscriber having made important improvements in the construction of rails, mode of guarding against accidents from insecure joints, etc.—respectfully offers to dispose of Company, State Rights, etc., under the privileges of *letters patent to* Railroad Componies, Iron Founders, and others interested in the works to which the same relate. Companies reconstructing their tracks now have an opportunity of *improving* their roads on terms very advantageous to the varied interests connected with their construction and operation; roads having in use flat bar rails are particularly interested, as such are permanently available by the plan.

W. Mc. C. CUSHMAN, *Civil Engineer*,
Albany, N. Y.

Mr. C. also announces that Railroads, and other works pertaining to the profession, may be constructed under his advice or personal supervision. Applicaitons must be post paid.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee. G. A. NICOLLS,
ja45 *Reading, Pa.*

ATLANTIC AND PACIFIC RAILROAD.

We meet with this "magnificent project" in almost all our exchange papers, and now we find the subject brought before a meeting of the stockholders of the Western railroad, on the 12th inst., by P. P. F. Degrand, Esq. We are so much accustomed to examine projects in a somewhat close, or, as the mathematicians say, rigorous manner, that we are in a great measure incapable of appreciating the magnificence or the utility of a railroad hence to the Pacific. When we see this great city shut out during five months of the year, from all communication with the rich river counties and the cities from Albany and Troy to Buffalo, and the vallies of the Mohawk and the Genesee, and the equally fine country around the Seneca and Cayuga lakes, we feel little inclination to undertake a work fifty times more difficult, but with means and results by no means in proportion. But the transcendental is more highly esteemed in the meridian of Boston than here, and we frankly admit that it never was our "forte." We give a few of Mr. Degrand's remarks.

"A continuous railroad, from Boston to the mouth of Columbia river, is imperatively called for by national considerations, which can neither be overlooked or neglected with impunity.

"*This railroad is the only scientific way of defending the Oregon territory.* By means of it, you can, in case of war, transport from our Charlestown navy yard, in thirty days, all the parts, numbered and fitted, to build in three weeks, a fleet of war steamers, on the Pacific; and you can also transport the carpenters, riggers, caulkers, blacksmiths and sail makers, as well as the sailors, marines and officers, to man the fleet. You can transport the cables, anchors, sails, rigging, guns, muskets gunpowder, balls, all the other materials and munitions of war. *You can thus take at once*, as if by enchantment, *the command* of the Pacific, and of the China, Japan and India seas, both with your private and public armed ships. * * *

"The Oregon territory, now a distant land, will, by the existence of this road, be brought nearer to Washington city, than Charleston, S. C., was during the revolutionary war. It will be reached with less inconvenience and personal discomfort, than Philadelphia was, from Quincy, in 1776. This facility of railroad communication is indeed the truly scientific way of securing the bonds of union for our vast empire.

"The line of railroads from Boston to the mouth of the Columbia river, will be the highway of nations, between Europe and China. A communication sent from England, by the Cunard line, reaching Boston in 12 days, will, by Morse's telegraph, instantly reach the mouth of Columbia river, whence a swift steamer will carry it to China, in 12 days more!

"By means of this railroad, the Oregon territory will become a part and parcel of our own selves, instead of being an isolated people, and another nation, as suggested in Wm. Sturgis' truly talented lecture, on this important subject.

"In view then of all these advantages, let us now resolve that this great work shall be accomplished in a brief space of time, and thus add to our national renown, and add also to our road a branch somewhat longer than Worcester long wharf.

"If we but resolve to have this done, depend upon it, Mr. President, it will be done; for I see men about me able to mould public opinion to this great national purpose. Indeed, after what we have already accomplished we need never despair in a good cause."

SHIP CANAL ACROSS THE AMERICAN ISTHMUS.

Survey of the Isthmus of Tehuantepec, executed in the Years 1842 *and* 1843, *with the intent of Establishing a Communication between the Atlantic and Pacific Oceans, and under the Superintendence of a Scientific Commission appointed by the Projector*, Don Jose de Garay. London: Ackermann and Co. 1844.

The American isthmus reaches from Tehuantepec and the Coatzacoalcos on the north, to Darien on the south, a length of five hundred and seventy-five leagues, and is traversed through its whole extent by a range of mountains, continuous at either extremity with the great chains that form the spines of both continents. Nine different parts of this isthumus have been proposed, at various times, as offering special facilities for effecting the desired communication; but it was at length ascertained that only three of these localities were worthy of consideration; those, namely, which, from their principal towns, are respectfully designated Isthmus of Panama (properly so called), of Nicaragua, and of Tehuantepec.

The distance from ocean to ocean, across the Isthmus of Panama, is only forty miles. Were our judgment, therefore, to be formed from a mere inspection of the map, an inclination to consider this point the most eligible would be inevitable. The space that divides the two seas is greater at Nicaragua, namely, ninety-five miles, but being intersected by a lake of vast dimensions, this tract of country would also appear to offer considerable advantages. Lastly, the territory of Tehuantepec, forming a continued line of 130 miles, is that which, upon a superficial examination, appears to be the least suited for the accomplishment of the object contemplated.

"However, notwithstanding these appearances, as a greater or less distance is not the only circumstance to be considered, it precisely happens in the three above-mentioned instances that the practicability of the work is in an inverse ratio to the shortness of the distance; and thus, while in the present state of our knowledge, it is apparently impossible at Panama, and attended with immense difficulties at Nicaragua, we find it practicable and easy at Tehuantepec."—*Moro.*

The breadth of the isthmus in a straight line from the mouth of the Coatzacoalcos is 220 kilomètres (130 miles,) but the greater part of this space is occupied on the south by lagoons and extensive plains, and on the Atlantic side by the course of the Coatzacoalcos, which can easily be rendered navigable up to its confluence with the Malatengo. The principal works, therefore, to be executed would be comprised between latitude 16° 36′ and 17° 3′ N., including a space less than thirty-one miles in extent, wherein no excavation whatever exceeding the usual limits would be required. The highest point to be surmounted is at the Portello de Tarifa, a pass between the mountains only 200 mètres (656 feet) above the level of the Pacific, and 160 mètres above the mouth of the Malatengo. There is an abundance of water, which may be applied with great facility to the service of the canal, being derived from the Chicapa or Chimalapa and its confluent the Monetza, and from a more considerable river, the Ostuta, which, like the former, flows into the lagoons not far from the town of Tehuantepec. The grand condition of a good harbour at either extremity of the line seems capable of being amply fulfilled in this case. The mouth of the Coatzacoalcos, 700 mètres wide, and with never less than twenty-one feet of water on its bar, quite enough to float a frigate, is, according to Balbi, 'the finest port formed by any one of the rivers that discharge themselves into the Gulf of Mexico, not even excepting the Mississippi.' Hitherto it had been very generally supposed that no harbour could be established on the Pacific side; but Signor Moro has cleared up this difficulty. The lagoons near Tehuantepec have a depth seldom less than five or six mètres, and this could easily be increased by dredging, the bottom being nothing but mud and shingle. The Boca Barra, by which they empty themselves into the ocean, is not obstructed by a true bar, but a little way within it there is an accumulation of sand which might be destroyed with extreme facility, whilst the cause of its deposit might be effectually removed. The isthmus is but scantily peopled, but it was once possessed by a dense and thriving population until the devastations of the buccaneers converted it into a wilderness. There is no reason why it might not again become as populous as ever. It possesses a fine climate, and in many places a most fruitful soil. Timbers for ship-building, dyewoods, superb mahogany, and other close-grained trees, are to be found in profusion in its vast and dense forests, and the abundance of cattle and resources of all descriptions would enable vessels passing through the canal to renew their provisions at easy prices, in the isthmus, so that they might devote a greater portion of their holds to the stowage of merchandise. Lastly, among the advantages offered by the Isthmus of Tehuantepec, not the least considerable is the mildness and salubrity of its climate, precisely in those localities where the assistance of European workmen would be required. This matter was sufficiently tested in 1830, when an abortive attempt was made to found a French colony in the isthmus. The unfortunate settlers, shamefully deluded by the projectors of the colony, found themselves from the moment of their arrival destitute of all resources, having neither food nor shelter provided for them; yet there occurred amongst them no case of yellow fever or other epidemic.

As to the probable cost of the undertaking, M. Moro speaks with becoming diffidence, not being in possession of all the data requisite to enable him to make an exact estimate. Many circumstances he thinks would combine to reduce the rate of cost below the European average; nevertheless, he takes for his standard of comparison the cost of an analogous work, the Caledonian Canal, generally admitted to have been exceedingly expensive, from a combination of adverse circumstances; and in applying that standard to his own project, he purposely disregards many favourable circumstances, and exaggerates others of a contrary nature. The result is, that the maximum cost of the canal of Tehuantepec would probably not exceed 85,000,000 francs

(say three millions and a half sterling); and M. Moro thinks the work might possibly be completed for less than £2,500,000 sterling.

Assuming that it should even cost four millions, there can be little doubt that an ample return might be realized by a moderate toll, even should we found our calculations on the existing state of commerce and navigation, and leave wholly out of consideration the vast increase they would infallibly receive so soon as the barrier of the isthmus was broken down. The new route would then be taken by all vessels from Europe destined for those points which are now reached by doubling Cape Horn; that is to say, the whole western coast of North and South America, and the islands of the South Sea. It would be taken by all vessels from the United States to China, and probably by a large proportion of those leaving Europe for that destination. The latter would not indeed gain anything as to mere length of way; they would even lose something in this respect; but this disadvantage would be more than compensated by the assistance of the trade winds and the gulf stream, and by the total absence of danger during the greater part of the year. The opportunity of making port half way in a country that seems likely, from its natural wealth, to arrive at a high degree of prosperity, would be a strong attraction; and steam vessels, proceeding by this course to China, would be able to estimate very closely beforehand the probable duration of the voyage.

Having laid before our readers this mere outline of a subject so vast and important, we must refer them for further details to M. de Garay's publication. There is a class of politicians in England, at this moment unhappily an influential one, to whom the idea of *any* canal through the American isthmus is distasteful. These men may prevent the execution of the work under English auspices, but their power can extend no further. Executed it certainly will be by others, if not by us. The French government has given unequivocal proofs of its desire to promote this great undertaking, and the shrewd people of the United States too well know their own interests to refuse their aid, should it be solicited. That nation will certainly be placed in a position of peculiar advantage, whose wealth shall realize the grandest of all engineering schemes, and whose children shall colonize the superb wilderness which will then pour its teeming riches into the lap of industry. We scorn to waste arguments on those who deem that the proud and fairly won supremacy of the English flag is to be maintained by imitating the pettyfogging policy of France in the affair of the Cairo and Suez railway; men like these would put out the sun, if they could, in order to protect their own trade in coals and tallow candles. A most rare opportunity is offered us of achieving honour, profit, and influence, by means perfectly legitimate; if the prize be sufferd to pass into other hands, England will have had one more cause to rue the effects of Tory ascendency. The cold and narrow conservatism of our Henry VII. stood between his people and the gift of a new world, which Columbus would have conferred on them; we may owe a more grievous loss to the sinister influence of the Peel cabinet.

TRADE OF THE ERIE EXTENSION.

We find in the Erie Chronicle a capital article on the subject of the trade of the Erie Extension, from which we make a liberal extract. It will commend itself to the notice of a large class of city and country merchants, as well as forwarders.

This new connecting link between the Ohio river and the lakes, says the Chronicle, being now completed, we may anticipate the commencement of a brisk business, upon the opening of navigation the ensuing spring. The whole length of the canal from Beaver to Erie, is 136 miles. The length of the navigable feeder, from a point two miles above Meadville, to the junction on the summit, is 25 miles; the distance from Beaver to the junction is 90½ miles, from Beaver to Meadville 113½ miles; from Erie to the junction 45½ miles; from Erie to Meadville 68½ miles; from Erie to Sharon 88½ miles; from Erie to Clarksville, 79½ miles; from Erie to Greenville 63½ miles; from Erie to Hartstown 52½ miles; from Erie to Powerstown 37½ miles; from Erie to Lockport 20½ miles; from Erie to Girard 16 miles; from Erie to Walnut Creek 9½ miles; the distance between Sharon and Greenville, by canal, is 25 miles. For the coal business of this canal, the field may be considered as bounded by Sharon on the south, and Greenville on the north. So that, for practical purposes, the nearest coal, of a good quality, will be 63½ miles from Erie, and the farthest 88½, or an average distance of 76 miles.

The toll on coal is 3 mills per ton (2000 lbs.) per mile, or 26½ cents per ton from Sharon to Erie, and 19 cents from Greenville to Erie. Coal will probably be delivered on the bank of the canal for $1,25 per ton, during the present season, (when the business is fairly established it will not exceed $1 per ton,) and, estimating the freight at 80 cents per ton from Sharon to Erie, the actual cost of a ton of coal delivered at Erie (in the commencement of the trade) will, upon the data assumed, be $2,31½. It will probably be sold in Erie at not exceeding $2,75 per ton through the ensuing season.

The coal business must eventually constitute the heaviest item of tonnage, but it is anticipated that the direct connection afforded by this canal between the river and the lake, and the moderate tolls the company are authorised to charge, will attract a portion of the trade from the Mississippi valley, and perhaps be the means of drawing a part of that which now passes by way of New Orleans, and the ocean, to New York.

The distance from Portsmouth on the Ohio river, by way of the canal, to Cleveland, is 311 miles. The distance from Portsmouth, by the river, to Beaver, is 322 miles. From Beaver, by canal, to Erie, 136 miles. Assuming that freight boats may travel, upon an average, 45 miles per day, and that steamers running *up stream* on the Ohio will average 9 miles per hour, the comparison would stand thus: on the Cleveland route, from Portsmouth to Cleveland, 311 miles—7 days, on the Erie route from Portsmouth by river to Beaver, 322 miles, at 9 miles per hour, 1¼ days; from Beaver to Erie, 136 miles, by canal in 3 days,—total 4¼ days. Difference 2¾ days.

In carrying articles from the lake to the great valley, steamers would travel down stream in little more than half the time above assumed. So that the average difference of time would be from 3 to 3½ days in favor of the Erie route.

Now let us examine into the comparative cost. The tolls on the Ohio canal are considerably more than double of those on our Pennsylvania canals; on many articles they are three and even four times as high. But assuming them at double the rate of those on the Erie route, and taking such articles as merchandise and groceries, the toll on the Erie route would not exceed 13 6-10 cents per 100 lbs, or per ton $3,72. On the Cleveland route 56 cents, or per ton $11. Difference on *canal* in favor of Erie $7,28. Estimating the cost of freighting at 1¼ cents per ton per mile, it would be: freight on Erie route (canal) $1,70. Freight on Cleveland canal route $3,88. Difference in freighting (on canals) $2,18. Total difference on canals per ton $9,46. After steamers are loaded below Portsmouth, the additional charge for running thence to Beaver would be but trifling. Allowing only 100 tons to a load, and $30 per day for expense of running 1¼ days, it would be 45 cents per ton. The difference in cost between the two routes may then be set down at $9 per ton. On a boat load of 40 tons, $36. On a steamer load of 200 tons, $180.

Should the Ohio Canal Commissioners reduce their tolls to the *same* rates as the Pennsylvania tolls, there would still be a difference in favor of the Erie route of $5,46 per ton. Business men will soon ascertain which is the quickest and cheapest route, and through *that* channel their commerce will finally flow.

NINTH ANNUAL REPORT OF THE NORWICH AND WORCESTER RAILROAD CORPORATION.

Cost of the road, engines, depots, wharves, etc.		$2,170,365 61
Receipts during the year ending Dec. 31st, 1844, are as follows:		
For transportation of passengers	$135,654 87	
Do. do. freight	78,786 05	
Do. do. mails and government expresses	6,102 19	
Do. do. package express	2,920 54	
For rents, wharfage, etc.,	2,052 35	
For interest and settlement with Boston and Worcester railroad	5,156 05	230,674 05
Expenses during the year ending 31st December, 1844.		
Repairs of road	10,233 90	
" " cars and engines	12,357 94	
Fuel and oil	17,556 37	
Miscellaneous expenses	32,783 10	
Contingent expenses	1,352 93	
Salaries	770 80	
Interest on all debts and loans	50,797 98	
Miscellaneous expenses incurred previous to 1844.	3,978 11	
Contingent do. do.	1,378 77	131,209 70
To credit of profit and loss		$99,464 35

Whole number of miles run during the year 1844.

By passenger trains	113,319
By freight trains	38,191
By trains, road clearing and repairing,	6,758
	158,268

A dividend of $3 per share was declared on the 23d day of December, 1844, and paid on the 2d day of January, 1845.

Railroads in Vermont.—We learn from the Vermont Patriot that Mr. T. J. Carter has surveyed a route for a railroad from the mouth of the White river to Burlington. It is a part of what is denominated the "Central railroad" from Boston to Canada, to be connected with the road now in operation between Boston and Concord, N. H. From Concord to the Connecticut, where the White river unites with it, the distance is about 50 miles, and the route favorable for the construction of a road.

Commencing at the mouth of the White river, (four miles below Dartmouth college,) the survey followed up the valley of that river, through the towns of Hartford, Sharon and Royalton to Bethel; thence up the west branch of the river through Randolph and Braintree to the summit in Roxbury; thence down Dog river, through Northfield and Berlin, to the Onion river; thence through the valley of that river to Burlington. The route traversed is about 100 miles in length, and the surveyor is of the opinion that the cost of the road will not exceed $21,000 a mile. Of the character of the route he says:

"By referring to the above table, it will be seen that the route is very favorable, as the

inclinations will admit of a high rate of speed and heavy freights in operating it, there being more than 40 miles level, and nearly three-fourths of the entire distance less than 30 feet per mile."—*Wor. Pal.*

Fitchburg Railroad.—The freight cars ran over the road to Fitchburg last week, but some further work is to be done before it can be opened for travel.

We learn that considerable excitement has been produced in Fitchburg by the location of the depot—it being upon land owned by the president of the railroad company, at some distance from the village. It is thought that officer, in selecting the site, looked more to his own private interest, than to the public accommodation.—*Wor. Pal.*

Albany and Buffalo Railroad.—A public meeting has been held at Buffalo, to remonstrate against the high charges, and frequent changes of hours, on the line of railroad between that city and Albany. the following resolution embraces the substance of the whole, as far as they relate to this matter.

Resolved, That the *variety* of chartered companies, owning sections of the line of railroad from the Hudson river to lake Erie, and the several rival interests to exact the highest endurable fare, and to run at the most seasonable hours for their particular section, without regard to securing travel over the entire line of the road, induces frequent changes in the hours of arrival and departure on one section to compel companies owning contiguous sections to be more compliant in their arrangements—often breaks up for days the continuation of trains—interrupts prior arrangements of travellers—stops wholly for hours their progress—impels the travelling community to other channels, and calls loudly upon the legislature to exercise its powers of prescriptive regulation of the summer and winter trains, and the rates of fare thereon, and to appoint a commissioner with power to supervise the same.

At the same meeting a resolution was offered and adopted, in favor of the New York and Erie railroad, as follows:

Resolved, That the citizens of western N. York are intimately interested in the speedy completion of the New York and Erie railroad, and thereby, among other great benefits, to acquire an effectual tendency to correct the abuses growing out of the short monopoly roads now existing between this city and Albany, and to surely induce the travel from the lower Ohio and Mississippi to a more speedy and less expensive route to and from New York and Boston.

A committee was appointed to draft a memorial to the legislature, in conformity with the spirit of these resolutions.—*Jour of Com.*

Madison and Indianapolis Railroad.—Under the new arrangements entered into between the legislature and the company having control of this work, we infer from recent notices, that it will be conducted in future with renewed zeal. The board are generally enterprizing and business men, and with the present organization, S. Merrill, Esq., president, we have every confidence that the work will be prosecuted with all possible despatch. We wish it every success. Our citizens here are deeply interested in the early completion of this road, and it will bring them much nearer to markets for the abundance of surplus they have to spare every year. Their pork, wheat and other grains of various denominations, will then cease to be a drug upon their hands; but on the contrary, the cash for this surplus will freely circulate among them.

Our Merchants and others will not only find it to their advantage to patronize this company in the transportation of their merchandize, but contribute much to the early completion of the work. It is a cheap mode of transportation.—*Greencastle Visitor.*

Michigan Central Railroad.—This road will be in full blast to Kalamazoo the ensuing summer; and a bill is now pending in the Michigan legislature, appropiating 140,000 acres of State lands, to complete the road to St. Joseph, its western termination. There is no more important work in the Union, none which should be prosecuted with greater vigor. When this last link is completed, the journey can be made from Boston to Chicago in 84 hours, as follows:

From Boston to Albany,	-	12 hours.
" Albany to Buffalo,	-	24 "
" Buffalo to Detroit,	-	30 "
" Detroit to St. Joseph,	-	12 "
" St. Joseph to Chicago,	-	6 "

—*Rochester Democrat.*

Tolls upon the Pennsylvania Public Works.—We have received a copy of the rates of toll fixed by the board of canal commissioners to take effect from the 1st of March. We regret exceedingly to find that the board have made no material reduction in the tolls, compared with the present rates, and that it seems to be their fixed determination to drive the trade from our State works to more circuitous, but cheaper routes.—*Phil. North Amer.*

The Illinois Canal Loan.—On the 14 inst. Governor Ford transmitted a message to the Illinois legislature, stating the conditions upon which the foreign bondholders are willing to advance a sufficient amount of money to complete this work. The able Springfield correspondent of the St. Louis Republican thus speaks of it: "Its terms are of such a nature that they cannot and will not be complied with by this legislature, and, unless greatly altered, the canal loan may be considered at an end. I have not heard a single member—with the exception of a few *mad brains*, in the region of the canal—but what unhesitatingly say, that the idea of paying the full amount of interest upon our whole debt after the expiration of ten years, which would exceed $700,000 annually, including the school debt, is too preposterous to be entertained for a moment. And, unless by conference with Gov. Davis and Mr. Leavitt, the terms are greatly reduced, nothing will be accomplished.—*Phil. Inquirer.*

The Delaware State Journal of Tuesday, says: "A new steamboat was launched from the ship yard of Messrs. Harris, on Thursday afternoon; she slid into her proper element most beautifully, and as she went was christened by the name of "E. I. Dupont." This is the fourth vessel of this description which has been launched from our wharves within a year. She is 85 feet on deck, 21 feet beam, 6¼ feet depth of hold, and measures 103 tons; she was built by Messrs. J. & J. A. Harris. She is to use Loper's propellers, which are to be moved by two 16-inch cylinders, with 2 feet stroke, making her power equal to about a 90-horse engine. The machine is of the best description, and made by Betts, Harlan & Hollingsworth of this city. The E. I. Dupont is calculated to make a daily trip each way between Wilmington and Philadelphia, for the carriage of freight and passengers.—*Philadelphia Post.*

Railway Luggage Labels.—An ingenious method for labelling boxes and packages to be conveyed by luggage trains on railways, or by steamboats, has just been invented and made public. The invention, which is entered at stationers' hall, is this: the passenger to whom the boxes, etc., belong obtains at the station or booking office, or of any of the shops where they are sold, a packet of lables printed with blank spaces for the names, etc., and number of packages to be filled up with pen and ink; the outward wrapper of each packet is absorbent, so that the ink is prevented from being blotted, and the paper on which the lables are printed is made adhesive in the same manner as the post office stamps. Thus in the space of two minutes half-a-dozzen lables may be prepared and stuck upon the packages, and mistakes and confusion avoided. The invention is a prevention to losses, and deserves patronage.—*Lon. Times.*

Railway Property.—It now appears that the traffic of the last six months of 1844, on the thirty-eight principal railways in Great Britain, amounts to three millions and a quarter or more—exactly £3,264,450. This traffic has been carried on upon 1,522 miles of railway, and 234 miles of branch lines, making in all 1,756 miles. This revenue is £450,000 more than the corresponding half of last year. It is chiefly owing to the improvement in the trade of the country, and only slightly to the increase in the extent of lines opened to the public. It represents an improvement of nearly ten millions in the value of the railways of Great Britain since the commencement of 1844. This revenue amounts to about £4,000 per mile per annum, of which let us take £1,600 for working expenses, and we have £2,400 per mile per annum for dividend, indicating a market value of £48,000 per mile, at 20 years' purchase. The total sum available this half-year for interest and dividends will be about £2,000,000, giving for the value of all the important lines of the country at 20 years' purchase, a sum of £80,000,000. But, as many of the lines are worth more than 20 years' purchase, and as many small lines are not included in this estimate, while some are in course of construction and not open for traffic, it may be near the truth to say that at the commencement of 1845 we start with a national property in railways worth not less than £100,000,000.—*Railway Chronicle.*

ENGLISH RAILROAD SHARE-LIST.

NAME OF RAILWAY.	Miles opened.	Total sums, in pounds, authorized to be raised by shares.	Total sums, in pounds, authorized to be raised by loan or mortgage.	Total sums, in pounds, expended at dates of latest balance sheets.	Cost of working, in pounds, for six months as stated in latest balance sheets.	Total earnings, in pounds, for six months as stated in latest balance sheets.	Dividend at last meeting. Per share. £	s.	d	Per cent. per annum. £	s.	d	Paid on share.	Value of share.
Arboath and Forfar	15	102,000	35,000	138,870	.....	.....	0	12	6	2	10	0	25	27
Birmingham and Gloucester	55	1,187,500	407,336	1,500,806	39,261	53,203	1	5	0	2	10	0	100	100
Brandling Junction	23	161,700	365,470	481,452	.....	.....	.....			4	10	0	50	54
Bristol and Gloucester	37½	400,000	211,000	.....	.....	.....	.....			nihil.			30	36
Chester and Birkenhead	14½	750,000	143,170	518,980	5,856	13,148	0	8	6	1	14	0	50	32
Dublin and Drogheda	31	450,000	150,000	500,869	.....	.....	.....			nihil.			55	72
Dublin and Kingston	6	200,000	152,200	359,000	.....	.....	6	0	0	6	0	0	100	166
Dundee and Arbroath	16½	100,000	49,445	153,416	2,989	6,993	1	5	0	5	0	0	25	29
Durham and Sunderland	18¼	169,350	124,055	270,392	9,889	17,702	.....			nihil.			34	29
East County and North and East	86½	4,443,200	1,341,155	3,931,905	47,385	118,726	1	6	6	.....			45	57
Edinburg and Glasgow	46	1,125,000	375,000	1,649,523	29,429	55,866	1	2	6	4	10	0	50	57
Glasgow, Paisley and Ayr	51	937,500	.....	1,066,951	12,446	36,736	1	2	6	4	10	0	50	60
Glasgow, Paisley and Greenock	22½	650,000	216,666	787,884	11,572	23,177	0	5	0	2	0	0	25	12
Grand Junction	104	2,478,712	.....	2,453,169	84,309	195,080	5	0	0	10	0	0	100	210
Great North of England	45	969,000	581,017	1,262,518	12,201	36,189	1	12	6	3	5	0	100	119
Great Western	221¾	4,650,000	3,679,343	7,272,539	132,235	369,904	3	10	0	7	0	0	75	138
Hartlepool	15½	438,000	155,540	719,205	.....	.....	.....			8	0	0	100	...
Leicester and Swannington	16½	140,000	.....	140,000	2,207	6,317	1	5	0	5	0	0	50	...
Liverpool and Manchester	32	1,209,000	497,750	1,739,835	57,239	117,559	5	0	0	10	0	0	100	203
Llanelly	27	200,000	44,000	221,624	.....	.....	1	0	0	2	0	0	87	...
London and Birmingham	124½	6,874,976	1,928,845	6,393,468	92,823	405,768	.....			10	0	0	100	218
London and Blackwall	3¼	804,000	266,000	1,315,640	15,978	23,870	.....			.....			16	6
London and Brighton	56	1,793,800	998,350	2,630,451	29,372	84,880	0	12	0	2	8	0	50	47
London and Croyden	8½	550,000	229,000	761,885	7,583	10,545	0	5	0	2	10	0	14	17
London and Greenwich	3¼	759,383	233,300	1,040,930	15,193	28,933	.....			nihil.			13	10
London and South Western	92¾	2,222,100	630,100	2,596,291	68,457	150,469	1	12	6	6	10	0	41	73
Manchester and Birmingham	31	2,100,000	690,586	1,923,699	15,397	58,162	1	0	6	5	0	0	40	48
Manchester and Bolton	10	778,100	197,730	773,743	8,585	21,140	2	2	0	4	10	0	93	110
Manchester and Leeds and Hull	81	2,937,500	1,943,932	3,921,593	46,653	156,761	.....			7l. & 10l.			60	88
Midland railway	178½	5,158,900	1,719,630	6,279,056	76,983	281,898	.....			.....			100	96
Newcastle and Carlisle	61	878,240	188,563	1,135,069	26,499	73,947	4	0	0	4	0	0	100	105
Newcastle and Darlington	23	500,000	.....	405,728	.....	.....	.....			nihil.			21	49
Newcastle and North Shields	7	150,000	153,876	309,629	8,943	18,466	.....			2	0	0	50	37
North Union	39	739,201	308,306	1,015,447	9,071	37,794	2	10	0	6	16	8	100	104
Paris and Orleans	82	1,600,000	400,000	1,978,415	.....	.....	0	16	0	8	0	0	20	39
Paris and Rouen	84	1,440,000	.....	.....	31,247	91,171	.....			8	0	0	20	38
Preston and Wyre	19	830,000	179,852	355,161	4,191	7,066	.....			nihil.			50	18
Sheffield and Manchester	19	1,150,000	311.759	951,455	11,895	14,876	.....			nihil.			82	93
South Eastern	88	2,996,000	1,530,277	3,464,172	40,993	81,482	0	10	6	2	2	0	50	39
Taff Vale	30	465,000	154,785	590,006	8,509	18,414	1	0	0	6	5	0	100	55
Ulster	25	519,150	20,000	348,626	5,401	13,856	0	15	0	5	1	8	29	37
Yarmouth and Norwich	20¾	187,500	62,500	230,250	.....	.....	.....			nihil.			16	25
York and N. Mid. and Leeds and Selby	28	1,062,500	167,500	676,644	27,132	55,752	2	10	0	10	0	0	50	100

NEW AND PROPOSED RAILWAYS.	Share Capital.
Aberdeen	1,600,000
Barnsley Junction	200,000
Belfast and Ballymena	325,000
Blackburn and Accrington	400,000
Birk. and Ches. Junction	1,000,000
Bolt., Wigan and Liverpool	800,000
Caledonian	1,800,000
Cambridge and Lincoln	1,250,000
Chatham and Portsmouth	5,000,000
Chester and Wrexham	120,000
Churnet valley	1,800,000
Direct Northern to York	4,000,000
Dublin and Belfast	950,000
Dundee and Perth	250,000
Edinburg and Northern	800,000
Ely and Bedford	270,000
Glosgow, Dum. & Carlisle	1,300,000
Gt. South and West Ext	1,200,000
Gt. Grimsby and Sheffield	600,000
Harwich and E. coun. Jun	160,000
Huddersfield & M. rl. & cl	600,000
Kendal and Windermere	125,000
Leeds and Dewsbury	400,000
Leeds and Thirsk	800,000
Liv. Ormskirk and Preston	600,000
London and Portsmouth	1,750,000
London and York	5,000,000
Londonderry & Enniskillen	500,000
Lynn and Ely	200,000
Manchester, Bury and Ross	300,000
Manchester and Buxton	250,000
Mullingar and Athlone	.....
Newcastle and Berwick	700,000
Richmond & W. End Junc.	.....
Scottish Central	700,000
Sheffield and Lincolnshire	650,000
Shrewsbury and Gd. Junc	400,000
Shrew. Wolv. Dudly & B	900,000
Trent Valley	900,000
West London Extension	64,000
West Yorkshire	1,000,000
Whitehaven and Maryport	100,000
FRENCH RAILWAYS.	
Boulogne and Amiens	1,500,000
Central of France	1,280,000
Lyons and Avignon	2,400,000
Orleans, Tours & Bordeaux	2,000,000
Paris and Lyons	2,500,000
Paris and Orleans	1,600,000
Paris and Rouen	1,440,000

Steam and Miscellaneous.

NAME OF COMPANY.	Num. of shares.	Am't. of share.	Amount paid.	Div. p c. per ann.	Last price.	Present price.
Anglo Mexican Mint	10,000	10	10	.....	15⅞	15⅞
Anti Dry Rot	10,000	.....	18½	.....	2	.....
Australian Trust Company	5,700	100	35	.....	34½	.....
General hteam Navigation	20,000	15	14	10	27½	27
Gt Western Steam Pa	.....	.....	100	.....	25	.....
Metropolitan Wood Pav	15,000	10	6	5	6¼	.....
Patent Elastic Pav	10,000	1	1	5	1¼	.....
Peninsular and Oriental	11,493	50	50	7	64¼	65
Ditto	3,200	50	40	7	.....	.....
Polytechnic Institution	.....	.....	.....	6	.....	.....
Reversionary Int. Soc	5,3[illegible]	100	100	4½	104	104
R. Mail Steam Packet	15,000	100	60	.....	36½	37
South Western Steam	4,000	25	5	.....	.....	.....
Ship Owners' Towing	3,000	10	7½	10	15	.....
Thames Tunnel	4,000	50	50	.....	.....	.....
University College	1,500	100	100	.....	.....	.....
Canals.						
Ashby de la Zouch	1,432	113	[av.	4	70	70
Barnsley	720	100	100	14	180	180
Birmingham, 1-16 share	3,000	118½	79	10	150	160
Do. and LiverpoolJunction	4,000	160	100	.....	13⅛	13⅛
Coventry	500	100	100	20	365	365
Cromford	460	do.	do.	24	250	250
Derby	600	do.	do.	9	105	105
Erewash	231	do.	do.	32	440	440
Forth and Clyde	1,297	400⅛	40⅛	4	440	440
Grand Junction	11,600	100	100	7	163	161⅛
Grand Surrey	1,500	do.	do.	.....	20	.....
Gloucester and Rerkley	5,000	do.	do.	.....	8	8
Grantham	749	150	150	8	185	185
Lancaster	11,699	47½	47½	3	40	40
Leeds and Liverpool	2,897	100	100	34	640	640
Liecester	545	140	140	9	139	139

NAME OF COMPANY.	Num. of shares.	Am't. of share	Amount paid.	Div. p.c. per ann.	Last price.	Present price.
Loughborough	70	142½	142½	70	1140	
Monmouthseire	2,409	100	100	10	160	160
Melton Mowbray	250	100	100	10	117	117
Mersey and Irwell	500	100	100	10		
Macclesfield	3,000	100	100	2½	15	15
Neath	247	100	100	17	365	365
Oxford	1,786	100	100	30	505	
Regents or Loncon	21,418	33¾	33¾	2½	25	25
Shropshire	500	125	125	6	120	120
Somerset coal	800	150	150	7½	123	123
Stafford and Worcester	700	140	140	25	480	480
Shrewsbury	500	125	125	12	230	230
Stourbridge	300	145	145	14	360	360
Stroudwater	200	150	150	19		
Swansea	533	100	100	15	240	240
Severn & Why & Rail Av.	3,762	26½	26½	5½	30	30
Trent and Mersey	2,600	50	50	65	495	
Thames and Medway	8,149	19¼	19¼	.....	10	10
Warwick and Birmingham	[illegible],000	100	100	10½	167	
Warwick and Napton	980	100	100	8½	122	
Water Works.						
Birmingham	4,800	25	25	3½	28	28
East London	4,433	100	100	8	223	225
Grand Junction	5,500	av.	41 2-3	7½	88	90
New River L. B. Ann	1,500			2½		
Manchester and Salford	6,486	av.	30	8⅜	57	57
Vauxhall, lt. S. London	1,000		100	5	55	55
West Middlesex	8,294	av.	63⅛	6⅛	126	127
Docks.						
Commercial Dock	1,065	100	100	3	80	
East and West India		sto.		5½	137	
London	3,238,310	sto.		4½	114¾	115
St. Katharine	1,352,752	sto.		5	116	171
Southampton	7,000	50	50			

AMERICAN STATE WORKS AND CANALS, ETC.

		STATE WORKS.	Length in miles.	Cost.	1843. Income.	1843. Expend.	1844. Income.	1844. Expend.
N. Y.	1	Black river canal—(including 4 y'rs' def.)	35	1,524,967	.....	.....	.....	.....
"	2	Cayuga and Seneca—(do. 14 years' def.)	21	237,000	16,557	10,953	24,618	14,443
"	3	Champlain canal	64	1,251,664	102,308	.....	116,739	.....
"	4	Chemung—(do. 11 years' deficiencies)	23	684,600	8,140	14,486	14,385	12,740
"	5	Chenango—(do. 7 years' def.)	97	2,420,000	16,195	15,967	22,179	15,960
"	6	Crooked lake—(do. 10 years' def.)	8	156,777	461	3,674	1,498	3,951
"	7	Erie—enlargement of	363	12,648,852	1,880,316	.....	.....	.....
"	8	Genessee valley—(do. 5 years' def.)	120	3,739,000	.....	.....	.....	.....
"	9	52 miles opened, cost $1,500,000	.....	.....	12,292	13,819	19,641	15,557
"	10	Oneida lake—(do. 4 years' def.)	6	50,000	225	2,239	621	1,636
"	11	Oswego—(do. 14 years' def.)	38	565,437	29,147	22,742	56,165	28,599
Pa.	12	Beaver division canal	25	.....	.....	.....	7,381	5,386
"	13	Delaware canal	60	.....	.....	.....	109,278	22,870
"	14	French creek	45	.....	.....	.....	.....	.....
"	15	Seneca river towing path	.....	69,276	.....	.....	381	.....
"	16	Columbia railroad	82	.....	.....	.....	443,336	205,067
"	17	Eastern division	36	.....	.....	.....	179,781	138,915
"	18	Juniata canal	39	.....	.....	.....	351,102	248,943
"	19	Portage railroad	130	.....	.....	.....	.....	.....
"	20	Western division canal	105	.....	.....	.....	.....	.....
"	21	North branch Susquehannah canal	73	.....	.....	.....	.....	.....
"	22	West " " "	72	.....	.....	.....	101,949	57,633
Ohio	23	Hocking canal	56	975,130	4,757	.....	5,286	4,139
"	24	Miami canal	85	1,660,742	68,640	38,826	77,844	22,341
"	25	Miami extension	105	2,856,636	8,291	.....	12,723	14,741
"	26	Miami northern division	35	322,000	.....	.....	unfin'd.	.....
"	27	Muskingum	91	1,627,318	23,167	.....	29,385	15,027
"	28	Ohio	334	4,600,000	322,754	123,398	343,711	113,210
"	29	Wabash	91	3,028,340	35,922	6,400	48,589	12,817
"	30	Walhonding	25	607,269	838	39,005	1,977	1,338
"	31	Western road	31	255,015	7,254	1,782	8,747	2,929
Ind.	32	Sundry works	.....	11,000,000	.....	.....	.....	.....
"	33	Maume canal	.....	.....	.....	.....	.....	.....
Ill.	34	Sundry works	.....	10,000,000	.....	.....	.....	.....
Mich	35	Central railroad	110	1,842,308	149,987	75,960	211,170	89,420
"	36	Southern railroad	68	936,295	24,064	7,907	60,341	70,000

The State Canals are all 4 feet deep, and the locks are 13 to 17 feet wide, and 80 to 90 feet in length.

The six millions paid to the canal fund from auction and salt duties are not included in the estimate of cost. The Genesee valley and the Black river canals require large sums for their completion, the interest of which *additional* sum is much greater than the estimated gross income of these canals when finished. The sums required to complete these two canals are $2,000,000 and $600,000, making their total cost when finished $5,553,000 and $2,409,000; an expenditure incurred on estimated incomes (admitted to be liberal,) of $39,000 and $14,000 respectively.

The total receipts from the works of Pennsylvania for 1843 were $1,019,401; for 1844 $1,164,326, and the cost about 30 millions.

The receipts for 1844 were as follows:

Canal tolls,	578,404
Railroad tolls,	252,855
Motive power,	319,590
Trucks,	13,477

of which $585,922 is from 118 miles of railroad, and $578,404 from 550 miles of canal.

The canals of Ohio are supported by a property tax of 5½ mills on the dollar. There are 853 miles of canal in the State, which yielded in 1843 $471,623, and in 1844 $515,393, the cost, 1st Jan. '43 being $15,577,233. The increase of '44 over '43 is only $43,770, though the year '44 has exhibited a greater increase throughout the country than ever before known.

These 21 millions on sundry works yield no income whatever.

The central railroad yields above 6 per cent., and is the only State work—the Erie canal excepted—which is able to stand alone.

	CANALS.	Length in miles.	Cost.	1843. Income. Gross.	1843. Income. Nett.	Div. per cent.	1844. Income. Gross.	1844. Income. Nett.	Div. per cent.	Value of stock.
	Blackstone	.....	.....	.....	.....	....	.....	.....	....	.....
	Bald Eagle Navigation	25	400,000	.....	.....	....	.....	.....	....	.....
	Beaver and Sandy, (part)	.....	1,000,000	.....	.....	....	.....	.....	....	.....
	Charleston, (S. C.)	.....	.....	.....	.....	....	.....	.....	....	.....
	Chesapeake and Ohio	184	12,370,470	47,637	.....	....	.....	.....	....	.....
	Conestota	12	300,000	.....	.....	....	.....	.....	....	.....
	Delaware and Chesapeake	13	.....	.....	.....	....	.....	.....	....	26
	Schuylkill	108	3,500,000	279,795	102,221	....	190,693	120,624	....	31
	Farmington	.....	.....	.....	.....	....	.....	.....	....	.....
	James river and Kenhawa	.....	.....	.....	.....	....	.....	.....	....	.....
	Middlesex	.....	.....	.....	.....	....	.....	.....	....	.....
	Port Deposit	10	200,000	.....	.....	....	.....	.....	....	.....
	Delaware and Raritan	43	2,900,000	99,623	53,327	....	.....	.....	....	.....
	Southwark	.....	300,000	.....	.....	....	.....	.....	....	.....
	Tide Water	45	2,900,000	.....	.....	....	.....	.....	....	.....
	Union	80	2,000,000	.....	.....	....	.....	.....	....	.....
	Morris	101	1,000,000	.....	.....	....	.....	.....	....	28
	Dismal Swamp	.....	.....	.....	.....	....	.....	.....	....	.....

We may, perhaps, at some future time be enabled to give the particulars of all these canals.

The Chesapeake and Ohio canal is not yet completed to the coal mines, hence its trifling income.

The enlargement of the Schuylkill canal has been commenced.

The Morris canal was lately sold for one million, about one-fourth of its cost. It is said in the papers that it is to be enlarged. We have seen no report, nor heard of the appointment of any engineer.

CANADIAN CANALS.	Length in miles.	No. of locks.	Lockage in feet.	Size of locks. Length of chamber.	Size of locks. Width.	Size of locks. Depth on mitre sill.	Width of canal. Bottom.	Width of canal. Surface.	Estimate.	Expended to Sept. 1843.	1843. Income.	1843. Expenses.
The Welland canal	.....	.....	.....	feet.	feet.	feet.	feet.	feet.	3,948,572	2,485,572	64,658	1,169
Main trunk from Port Colborne to Port Dalhousie	28	31	328	150	26 1-2	8 1-2	45	81	.....	.....		
Junction branch to Dunville (not added	21	1	6	150	26 1-2	8 1-2	35	71	.....	.....		
Broad creek branch to Port Maitland below.	1 1-2	1	6	200	45	9	45	85	.....	.....		
The St. Lawrence canal	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Galops and Port Cardinal	2	2	7	200	45	9	50	90	.....	.....		
Rapid Plat	4	2	11 1-2	200	45	9	50	90	672,498	973		
Farren's point	3-4	1	3 1-2	200	45	9	50	90	.....	.....		
Cornwall, passing the Long Sault rapids	11 1-2	7	48	200	55	9	100	150	865,372	1,665,663		
Beauharnois, do. Coteau, Cedars and Cascades road	11 1-4	9	82 1-2	200	45	9	80	120	1,190,087	275,426		
Lachine, do. Lachine rapids	8 1-2	5	44 1-2	200	45	9	80	120	old canal.	400,000	29,288	9,011
Elargement of do.	.....	.....	.....	.....	.....	.....	.....	.....	1,001,333	64,439		
Total from lake Erie to the sea	12	57	525									
Chambly	66	9	74	120	24	6	36	60	200,000	440,000	1,409	1,096

COAL COMPANIES.	Length in miles R. rd.	Length in miles Canals.	Cost.	1843. Income. Gross.	1843. Income. Nett.	Div. per cent.	1844. Income. Gross.	1844. Income. Nett.	Div. per cent.	Value of stock.	REMARKS.
Delaware and Hudson	16	108	2,800,000	930,203	196,702	10	.....	.....	....	117	
Lehigh	20	72	6,000,000	.....	.....	....	.....	.....	....	31	

AMERICAN RAILROADS.

		RAILROADS.	Length in miles.	Cost.	Loans and debts.	Number of shares.	Paid on share	1843. Income. Gross.	1843. Income. Nett.	Div. per cent.	1844. Income. Gross.	1844. Income. Nett.	Div. per cent.	Previous prices	SALES. Week ending 22d February. Shares.	Price
Me.	1	Portland, Saco and Portsmouth	50	1,200,000	.....	.....	....	89,997	47,166	7	124,497	74,841	6	98½	.....	....
N. H.	2	Concord	35	750,000	.....	.....	....	.....	.....	....	.....	.....	12	130	.....	....
Mass.	3	Boston and Maine	56	1,485,461	.....	.....	....	178,745	68,499	6	233,101	86,401	6½	110	.....	....
"	4	Boston and Lowell	26	1,863,746	.....	.....	....	277,315	144,000	8	316,909	147,615	8	120	3	120
"	5	Boston and Providence	41	1,886,135	.....	.....	....	233,388	110,823	6	282,701	156,109	6	107	.....	....
"	6	Boston and Worcester	44	2,914,078	.....	.....	....	404,141	162,000	6	428,437	195,163	7½	117	18	117½
"	7	Berkshire	21	250,000	not stated	.....	....	.....	17,500	7	17,737	.....	....	.....	.....	....
"	8	Charlestown branch	.....	280,260	.....	.....	....	.....	.....	13	34,654	13,971	5½	81	.....	....
"	9	Eastern	54	2,388,631	.....	.....	....	279,563	140,595	6	337,238	227,920	8	108½	10	107½
"	10	Fitchburg	50	1,150,000	just opn'd	.....	....	.....	.....	....	42,759	26,835	....	115½	6	118
"	11	Hartford and Springfield	25 1-2	132,852	do.	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	12	Nashua and Lowell	14 1-2	380,000	.....	.....	....	84,079	.....	8	94,588	34,944	10	120	.....	....
"	13	New Bedford and Taunton	20	430,962	.....	.....	....	50,671	24,000	6	64,998	24,000	6	.....	.....	....
"	14	Norwich and Worcester	59	2,170,366	not stated	.....	....	162,336	24,871	....	230,674	99,464	3	72½	5,492	71
"	15	Taunton branch	11	250,000	.....	.....	....	.....	20,000	8	96,687	20,000	8	118	.....	....
"	16	West Stockbridge	3	41,516	200	.....	....	.....	.....	....	.....	.....	4	.....	.....	....
"	17	Western, (117 miles in Mass.,)	156	7,686,202	4,686,202	30,000	100	573,882	284,432	....	753,753	439,679	3	99	364	99½
"	18	Worcester branch to Milbury	.....	8,431	506	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Con.	19	Hartford and New Haven	38	.....	.....	.....	....	.....	.....	....	.....	.....	....	100	.....	....
"	20	Housatonic, (10 months,)	74	1,244,123	.....	.....	....	.....	.....	....	150,000	.....	....	37½	225	37
"	21	Stonington, (year ending 1st Sept.,)	48	2,600,000	.....	.....	....	113,889	.....	....	154,724	79,845	....	43½	4,195	42
N. Y.	22	Attica and Buffalo	31 1-2	268,275	.....	.....	....	45,896	7,522	....	.....	.....	....	.....	.....	....
"	23	Auburn and Rochester	78	1,727,361	.....	.....	....	189,693	112,000	....	.....	.....	....	107	.....	....
"	24	Auburn and Syracuse	26	743,931	.....	.....	....	86,291	27,334	....	.....	.....	....	.....	10	116
"	25	Buffalo and Niagara	22	200,000	.....	1,500	133⅓	.....	.....	....	.....	.....	....	100	.....	....
"	26	Erie, (446 miles,)	.....	5,000,000	.....	.....	....	.....	.....	....	.....	.....	....	30½	320	30
"	27	Erie, opened	53	.....	.....	.....	....	.....	48,000	....	.....	.....	....	.....	.....	....
"	28	Harlem	26	2,200,000	.....	.....	....	.....	.....	....	.....	.....	....	73	1,825	70¾
"	29	Hudson and Berkshire	.....	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	30	Long Island	95	1,884,640	392,340	29,846	50	.....	.....	....	153,456	70,043	....	79½	8,815	78
"	31	Mohawk	16 3-4	1,030,949	.....	.....	....	69,948	58,780	....	84,306	40,000	....	66	275	65
"	32	Tonnawanda	43	600,000	.....	.....	....	76,227	.....	....	.....	.....	....	.....	.....	....
"	33	Troy and Greenbush	6	180,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	34	Troy and Saratoga	25	475,865	.....	.....	....	44,325	21,000	....	.....	.....	....	.....	.....	....
"	35	Troy and Schenectady	20 1-2	633,520	.....	.....	....	28,043	.....	....	.....	.....	....	.....	.....	....
"	36	Schenectady and Saratoga	22	300,000	.....	.....	....	42,242	3,000	1	.....	.....	....	.....	.....	....
"	37	Utica and Schenectady	78	2,124,013	.....	.....	....	277,164	180,000	9	.....	.....	....	131	15	129½
"	38	Utica and Syracuse	53	1,080,219	.....	.....	....	163,701	72,000	....	.....	.....	....	119	10	115½
N. J.	39	Camden and Amboy	61	3,200,000	.....	.....	....	682,832	383,880	....	.....	.....	....	110	35	110
"	40	Elizabethtown and Somerville	26	500,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	41	Morris and Essex	.....	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	42	New Jersey	34	2,000,000	.....	.....	....	.....	.....	....	.....	.....	....	94	100	94
"	43	Paterson	16	500,000	.....	.....	....	.....	.....	....	.....	.....	6	85	25	85½
Pa.	44	Beaver Meadow	26	1,000,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	45	Cumberland Valley	46	1,250,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	46	Franklin	10 1-2	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	47	Harrisburg and Lancaster *	36	860,000	.....	.....	....	.....	.....	....	.....	.....	....	39	.....	....
"	48	Hazleton branch *	10	120,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	49	Little Schuylkill	29	900,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	50	Lykens Valley	16 1-2	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	51	Mauch Chunk *	9	100,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	52	Minehill and Schuylkill Haven *	18	315,000	.....	.....	....	.....	.....	12	.....	.....	....	144	10	140
"	53	Norristown	20	800,000	.....	.....	....	.....	.....	....	.....	.....	....	10	3	6
"	54	Philadelphia and Trenton *	30	400,000	.....	.....	....	.....	.....	....	.....	.....	....	105	.....	....
"	55	Pottsville and Danville	29 1-2	1,500,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	56	Reading	94	9,457,570	7,447,570	40,200	50	.....	.....	....	597,613	343,511	....	50	820	48
"	57	Schuylkill valley *	10	1,000,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	58	Williamsport and Elmira	25	400,000	.....	.....	....	20,000	.....	....	.....	.....	....	.....	.....	....
"	59	Philadelphia and Baltimore	93	1,400,000	.....	.....	....	43,043	200,000	....	.....	210,000	....	43	6,282	42
Del.	60	Frenchtown	16	600,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Md.	61	Baltimore and Ohio, (1st Oct.)	188	7,623,600	.....	.....	....	575,235	279,402	....	358,620	346,946	....	48¾	10	48¾
"	62	Baltimore and Susquehanna	58	3,000,000	.....	.....	....	.....	.....	....	.....	.....	....	5	.....	....
"	63	Baltimore and Washington	38	1,800,000	.....	.....	....	177,227	71,691	....	212,129	104,529	....	84	.....	....
Va.	64	Greensville and Roanoke *	17 1-2	260,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	65	Petersburg and Roanoke *	60	766,000	.....	.....	....	.....	.....	....	.....	.....	3	.....	.....	....
"	66	Portsmouth and Roanoke	78 1-2	850,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	67	Richmond and Fredericksburg *	61 1-2	1,200,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	68	Richmond and Petersburg *	22 1-2	700,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	69	Winchester and Potomac *	32	500,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
N. C.	70	Raleigh and Gaston *	84 1-2	1,360,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	71	Wilmington and Raleigh *	161	1,800,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
S. C.	72	South Carolina	136	5,299,224	.....	34,410	75	.....	.....	....	.....	.....	8	.....	.....	....
"	73	Columbia	66		.....	.....	....	201,464	77,456	....	328,425	180,704	....	55	.....	....
Ga.	74	Central	190	2,581,723	.....	.....	....	227,532	93,190	....	.....	.....	....	.....	.....	....
"	75	Georgia	147 1-2	2,650,000	.....	.....	....	248,026	158,207	....	248,096	147,523	....	.....	.....	....
Ala.	76	Tuscumbia	46	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Ky.	77	Lexington and Ohio	40	500,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Ohio	78	Little Miami	40	450,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	79	Mad river	40	400,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	80	Monroeville and Sandusky	.....	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Mich.	81	Detroit and Pontiac	25	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
"	82	Erie and Kalamazoo	33	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Ind.	83	Madison and Indianapolis	56	152,000	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Can.	84	Champlain and St. Lawrence	15	212,000	.....	.....	....	.....	12,000	....	58,000	24,000	....	110	.....	....

We particularly request statements of the traffic of each week and of the corresponding week of last year to be regularly sent to us.

Correspondents will oblige us by sending in their communications by Monday morning at latest.

PRINCIPAL CONTENTS.

AMERICAN RAILROAD JOURNAL.

PUBLISHED BY D. K. MINOR, 23 Chambers street, N.Y.

Thursday, March 6, 1845.

NEW YORK AND ALBANY RAILROAD.

This project has been kept alive for some years by a few spirited individuals, who, with much trouble and some loss of time and money, have preserved a most valuable charter, always holding themselves in readiness to surrender it into the hands of any association of gentlemen, whose influence, character and wealth were adequate to the successful accomplishment of this great and—to the city of New York—unrivalled undertaking. It is with the liveliest satisfaction we announce that, a few days since, a number of gentlemen, whose ability to carry through the project is beyond all doubt, obtained, from the persevering individuals, above alluded to, the charter, rights, surveys, etc., of the New York and Albany railroad company, for $50,000. These latter gentlemen have secured their object, the construction of the work, and the new association have *now* in their hands, at a cost of little more than three hundred dollars per mile, a charter, and a mass of information, to acquire which, would have cost them *at least* the sum paid and the loss of an entire season. Those unacquainted with these subjects will be surprised to learn the large expenditures incurred for such purposes. In their report of 7th October, 1843, Messrs. Allen and Brown, the then president and vice president, of the New York and Erie railroad company state the expenses under the head of "miscellaneous," salaries of officers, clerkship, printing, legal expenses, etc., $230,366 93, just five hundred dollars per mile, besides engineering, $331,318 79. On the Western railroad, the Croton aqueduct, and numerous other works, large expenditures were also incurred for similar purposes, and necessarily so, for we desire to draw no invidious comparisons, but merely to show that the new company start with the immense advantages of an admirable charter and of very extensive surveys, together with a variety of information, at the very small cost of $50,000.

Having stated the facts, we will conclude with the hope, that this noble undertaking will be viewed as a great work of *civil* engineering; that it will not fall into the hands of a set of politicians or stock jobbers; that it will be regarded by the community as a permanent investment, and, lastly, that the distinguished gentlemen, under whose direction it is to be constructed, will not be unmindful that the Empire State boasts not to this day of a single railway of the first order in this country, far less in England.

LONG ISLAND AND NORWICH AND WORCESTER RAILROADS.

During the last month more than 25,000 shares out of 30,000 the total number of shares of the Long Island railroad have been sold at prices varying from 76 to 80, and closing on 1st March at 78. It is not probable that many shares have been purchased for investment, the only transactions in which we take any interest; still it may not be altogether useless to examine the actual value of the stock with the scanty information vouchsafed to us by the directors. If the road were *entirely* free from debt, finished and fully equipped for its business in freight and passengers, if it had for some years regularly paid 5 per cent. to the stockholders from a trade furnished by the Island, and therefore free from competition, having at the same time a fair reserve to meet contingencies and renewals of road and machinery, the stock would then be worth about 80 as an investment. To ascertain its present value each reader must trust to his own fancy.

Again, we *know* that $2,500,000 is a moderate estimate of the cost of such a road *complete* with a single track; we also *know* that $150,000 per annum is a reasonable estimate of the cost of running, repairing and renewing; hence a gross income of $300,000 from the *road* alone is required to divide 6 per cent., when the stock will of course be at par for investments. This estimate does not include steamers to cross the sound.

The sales of Norwich and Worcester shares are also numerous, and uniformly lower than those of the Long Island road, though by their statement to the legislature of Massachusetts their condition is far superior to that of the latter work. With an expenditure of $2,170,366 they have an income of $230,674, netting $99,464, besides paying $50,798 interest on debts and loans—in fact clearing $150,000, very nearly seven per cent., yet only three per cent. were divided, and on 1st of March the stock sold for 71. With a less favorable statement the stock of the Western railroad has risen to par, and, unless they fear the loss of the New York travel, we are as much puzzled to account for the low price of this stock as for the high price of the stock of the Long Island railroad. At the same time, it is *possible* that the prices give their true relative values. The cost of running both these roads is given much below that in Massachusetts, per track per mile, about $1,500, and we know of no reason for crediting the directors and engineers of either with skill, character or acquirements *superior* to those of the best works in that State. Allowing $100,000 per annum for expenses, there would still remain $130,000 for dividends, just 6 per cent. for the year 1844. If the reports of these companies are entitled to any confidence we can only say to speculators "de gustibus," etc.

☞ We tender our thanks to P. P. F. Degrand, Esq., of Boston, for the reports of the Massachusetts railways, from which we have completed our table for 1844. We shall of course give such extracts as may be important, and may perhaps draw from them some views of interest to our readers.

☞ The remarks in *Herapath's* article, in another page, will be found amusing. *They* can find out little about *new* projects; *we* are kept in the dark as to the actual state of the *old* ones.

☞ We had expected to give our readers some account of Coleman's mode of ascending inclined planes by locomotives, with the opinions of the numerous scientific gentlemen who have examined it, but shall expect it next week.

☞ We owe a heavy debt of gratitude to the press generally for the very flattering manner in which they have been pleased to notice our labors, and for an excellent list of exchanges. It would be unfair not to mention the Philadelphia press, which has been in both respects particularly generous. We do not presume to claim the slightest notice of the value of the *Journal*, but wherever the subject of railways is important we must think that we are entitled to the courtesy of an exchange, yet the only points of which we have any reason to complain, are the very ones where railways are the leading topic of the day. We allude to Boston, Albany and Montreal. The St. Catharine's Journal is our only exchange from the province of Canada, though they are obliged to refer to the pages of the *Journal*, when they attempt to discuss their general policy with reference to public works. Again, in Albany, at this very time, they are in want of the information in late numbers, in order to fully understand the present most anomalous condition of affairs in this State. We are sorry that while engaged in earnest and frequently able discussions on their own railways, they should feel so utterly indifferent to the success of the great cause throughout the Union, and unwillingly bid them farewell.

☞ Sir John Rennie has been appointed president of the institution of civil engineers, in place of Jas. Walker, Esq., resigned. Herapath has a savage attack on Mr. Walker, who, we should suppose, did not neglect the admonition of his countryman, Sir Pertinax.

"The State canals of Pennsylvania will be opened on the 10th of March, at which time also, the water will be let into the Tide Water canal."—*Phila. Inq.*

Were the Williamsport and Elmira railroad completed, the southern counties would receive their supply of spring goods five or six weeks earlier than by the Erie canal, and the income of the State works of Pennsylvania would be greatly increased.

WESTERN RAILROAD.—Receipts for the week ending February 22:

	1845.	1844.
Passengers, - -	$5,652	$3,906
Freight, etc., -	7,026	5,522
Total, - -	$12,678	$9,428

MINEHILL AND SCHUYLKILL HAVEN RAILROAD.—The following is the amount of coal transported over this road, for the week ending on Wednesday evening last:

	6,196·02
Per last report, - -	28,622·03
Total, - - -	34,818·05

THE COAL TRADE.—Sent by railroad up to Thursday evening last.—*Miners' Journal.*

Schuylkill Haven, - -	6,677·01
Pottsville, - - -	1,899.06
- -	8,576·07
Per last report,	42,338·22
	50,914·29

☞ In the legislature of New York they are actually discussing the propriety of restricting the Mohawk and Hudson and Troy roads from carrying freight during the summer! The next step will be to include the N. York and Erie, Harlem and Long Island railways, and the "system" may be completed by preventing all the railways in the State from carrying passengers during the season of navigation.

We affect to pity the Hindoo who worships the magnificent Ganges, but, when we see men of some education, and not without pretensions to respectability publicly prostrating themselves before this muddy divinity, "four by forty, with slopes two to one," we are overwhelmed with disgust and mortification.

☞ From all we hear, the "Loper" is likely to supercede the "Ericsson" or "Emerson" propeller

STATE WORKS OF NEW YORK.

The income and expenses of the canals for 1844 will be found in our table of State works. We have also given the original cost, without the deficiencies, as heretofore. The comptroller gives the following summary view:

"The annual interest on $30,461,303 84, the cost of all the State canals, and the enlargement of the Erie canal, at 5½ per cent., which is the average interest on the present State debt, is - - - - $1,675,371 71

The nett revenue from all the State canals for the year ending 30th Sept., 1844, after deducting the cost of collection of tolls and of the maintenance of the canals, is 1,803,768 51

Excess of revenue over 5½ per cent. on the cost of canals, $128,396 80

"This shows that the entire canal system of the State pays interest on the cost of the canals of about six per cent. per annum. This favorable result is produced mainly by the revenue of the Erie canal, which yields $2,154,234 79, while all the other canals produce only $243,990 81.

"The preceding estimate does not include the ascertained loss to the treasury of $3,515,700, on account of loans of State stock to railroad corporations. If this sum be added to the cost of our system of internal improvement, it shows a total outlay of $33,977,003 84. The annual interest paid from the treasury on account of these loans to insolvent railroads, is $191,986 50."

The total debt, "direct and contingent," is $28,068,413 26. Of the "contingent liabilities," $1,650,000 may be pronounced safe, which, together with the "Astor stock," etc., being deducted, leaves the present actual debt on account of public works, $24,289,605 58. Of this sum, $315,700 were loaned to the Ithaca and Owego railroad company, $200,000 to the Catskill, and $3,000,000 to the Erie company, in all $3,515,700 leaving the canal debt $20,713,903. (The debt includes $70,000 loaned to the Tioga company, which is perhaps safe). The canals yield on their present actual debt about 8½ per cent. Besides paying interest on the canal debt and on loans to "insolvent railroads," at the rate of 5½ per cent., the canals yielded a surplus of $275,854 in 1844, but, as $300,000 of the revenue of the canals is appropriated by law to aid in defraying the ordinary expenses of government, and as considerable sums of the capital are becoming payable, it is clear that taxation on the whole State, or an increased charge to those who benefit by the canals must be resorted to, in order to meet the liabilities of the State. The former course was preferred, and we have already given our reasons for pronouncing it both impolitic and unjust. The comptroller says,

"At the time the suspension law passed there was an unliquidated debt against the public works of more than three millions of dollars, which has since been paid, and now forms a portion of the stock debt. This shows that these works were carried forward in a manner so loose and improvident, that, with a corps of engineers costing the State a hundred and forty thousand dollars per year, it could not be ascertained during the session of 1842 within a million and a-half of dollars of the sum due contractors and others, although two separate calls were made, with this object solely in view.

"The second call before referred to (Ass. doc. No. 173,) was answered on the 8th of April, 1842.

"The following statement shows in the first column the estimate given in that report of the amount unpaid for work done at that time; and in the second column is given the sums actually paid for arrearages to contractors and others, to the close of the last fiscal year, viz:

	Estimate of arrearages.	Am't actually paid for arrearages.
Erie canal enlargement.	$370,036 00	$1,576,772 84
Chemung canal.....	102,267 00	181,233 73
Black river canal.....	116,189 00	195,225 33
Genesee valley canal....	213,712 00	574,452 96
Chenango canal.....		12,495 41
Oneida river improvement		10,415 32
	$802,207 00	$2,550,595 59

"These sums are wholly unconnected with the amount allowed for breaches of contract under the suspension law of 1842. The allowances of this character are as follows:

On the Erie canal enlargement,	$204,858 87
" Black river, - -	623 32
" Genesee valley, -	152,836 74
" Oneida river improvement,	3,944 66
	$361,813 59

"If this sum be added to the amount of arrearages before given, $2,550,595 59, and the sum paid for land damages, about $450,000, it shows a total of $3,362,409 18 paid on the public works since the passage of the suspension law of 1842."

This is very ungenerous on the part of the comptroller; without *such a* "corps of engineers," he and his firiends could never have foisted on the people the enlargement of the Erie, and the construction of the Genesee, Black river and Chenango canals, on which $20,332,819 have been expended, exclusive of interest; which, in fact, forms the present canal debt. Without *such a* "corps of engineers," their vain and imbecile, yet rash opponents, and successors would never have adopted, and prosecuted to extremities, the crude, useless and extravagant projects, introduced, authorized and commenced by those now in authority in this State. These engineers had been trained to obey the orders, and even to consult the wishes of the commissioners, and one of the principal ones was complimented by Col. Young for his remarkably "close shooting" in an estimate; for the Chenango canal, we believe. These gentlemen continued to pursue the course which had given satisfaction for many years, but public opinion having changed, the comptroller and his friends have of course followed, and, because economy is popular, are now as much in favor of retrenchment as they were, a few years since, anxious to incur the greatest possible expenditures. It is the comptroller who has changed, not the engineers.

We have here some more of the "beauties of government engineering," and another lesson to the people to retire as quickly as possible from the construction of public works, leaving all such matters to private enterprize which alone possesses the means, skill and *integrity* indispensable to success.

ST. LAWRENCE AND ATLANTIC RAILROAD.

This is the imposing name of the contemplated railway between Montreal and the Atlantic at Boston or Portland. We have, from the very first movements in this matter up to the present time, kept our readers aware of the various efforts made to insure the construction of this work at an early period. It is generally believed, that a favorable charter will be obtained from the Canadian parliament, now in session, and some are even so sanguine as to rely on pecuniary aid from the province. Of the probability of this we know nothing; but reasoning from experience—not only there, but in the great States of New York, Pennsylvania and Ohio—we see little prospect of anything more than nominal aid from the colonial treasury, already supposed inadequate to the completion of the St. Lawrence canal. Whether the British government will guarantee another loan, is at least doubtful, but we think that the British American land company will subscribe liberally to a route which suits their interests. They *have* subscribed £20,000 to *any route*.

We have numerous letters from gentlemen in the vicinity of the different routes, and, though strongly advocating the peculiar advantages of their favorite lines, they still more strongly urge the construction of the work on *some* line. The newspapers also are filled with accounts of spirited meetings, and useful and, in some cases, well drawn up statistics. An extract from a communication, not intended for the public eye, will convey a good idea of the feeling with which this great project is viewed.

"And now about our railroad, which is all the talk here, and we are acting as well as talking; we do not intend to listen to any doubts about it. The road we must and will have. The survey is already commenced in good earnest; the surveyor is now here, having commenced at Concord, and is taking a general view through, and will proceed with all possible expedition. This route com-

mences at Concord, thence to Sanbomton bridge on the Winnisepisiogee river, about 3½ miles from its junction with the Merrimack, very favorable ground for a road. The engineer thinks this part of the route may be built for $12,000 per mile, distance from Concord to Sanbomton bridge 17 miles. The route then follows up the Winnisepisiogee to this place, 10 miles. No difficulty in this part of the route, it will probably be a little more expensive than the other. From this it follows the river to the outlet of the lake, 6 miles. Thence to Plymouth, 16 miles, over good ground; a portion of which has been surveyed for a canal. Thence to Haverhill, 30 miles, without any serious obstacles in the way. For two or three miles on the last part of the route it is said the grade will be 40 feet to the mile. The rise from Concord here, 27 miles, is about 230 feet. The rest of the route, except the two or three miles referred to, is less. No doubt is entertained by those best acquainted with the road, of its being the most favorable of any of its length which has been built in the United States. The route from Haverhill to Derby line, in Vermont, has been surveyed for a railroad, and found to present no insurmountable obstacle, though portions of this part of it will probably be more expensive than any in New Hampshire.

"I do not believe that Portland is the point at which to start from the seaboard for Montreal. The people at Montreal have their buslness in Boston, and that is the place to which they wish to go; and if they go to Portland they then must go to Boston. The argument that Portland is a little nearer Montreal than Boston is, will amount to nothing. There is no probability, I think, that the British steamers will come into Portland, and if this does not take place, there is no inducement to go to Portland, and the route that way to Boston will be greater than this. But more anon."

These are two great rival routes, the one striking the Atlantic at Boston, the other at Portland. In favor of the latter port, it is urged, that the road will be about one hundred miles shorter, and that it is a better route in an engineering point of view. Ii is even said that it will be thirty miles less to Boston via Portland, than via Concord, the favorite line in Boston. The great advahtages of Boston in its wealth, business, railways, Atlantic steamers, etc., are known to all. Then again, there is the line up the Connecticut, uniting Boston and New Haven with Canada, for we understand that all three lines come very nearly together towards he head of that river. The construction of a line up the valley of the Connecticut we consider tolerably certain; it will join the Western railroad at Springfield, and will bring in New York as a competitor for the winter trade and travel of the north, by means of the New York and New Haven railroad. In the summer, she has in addition the present route via the Hudson and lake Champlain. Among them all, Montreal stands a good chance of being accommodated with a railroad to some American port.

The most remarkable and gratifying feature in these proceedings, is the spirit which pervades the whole country, not excepting Lower Canada itself. It is only a few months since it was first spoken of, and it has already created a greater sensation in Canada than all their public works put together during the last ten years. We flatter ourselves that the spirit of private enterprise is awakened—it would perhaps be more correct to say is created, for the province is indebted to the unwearied exertions—not only disinterested, but made at great personal sacrifice—of an American gentleman, long resident there, for its sole specimen of a canal or railway constructed by private enterprize.

The situation of things there bears a strong resemblance to our present condition in New York. We have the government and the canals against the general interest—more especially the agricultural—in the extension of railways, and the right to use those we have. This last feature is not yet introduced into Canada, though by offering a quicker, cheaper and uninterrupted communication between Montreal and the ocean, the St. Lawrence and Atlantic railroad will necessarily injure the shipping interest at that port. For, with a drawback on goods sent to Canada, freights from Liverpool to Montreal will be less via Portland and the railway than via the gulf of St Lawrence. Again, allow a drawback, and all Upper Canada will receive their supplies via New York, where the present Montreal importers will at once establish houses. British shipping will then lose its freights to Montreal, and the St. Lawrence canal its trade to the upper province, coarse bulky articles perhaps excepted. The annexation of Canada by congress is a thing to be talked of and laughed at, but annexation by means of the St. Lawrence and Atlantic railroad, is to be seriously considered and—accomplished.

The editor of *Herapath's Journal* thus commences the new year:

"We think we need scarcely preface the new year with any introductory remarks. However, as the system appears to be somewhat fashionable with our brother editors, perhaps it would not be amiss to remark that it is our intention to spare no exertion, nor to waive any principle of honesty in the future, as in the past, conduct of the Journal. In respect to ability, however, we do not wish to draw the credulity of our readers to rely on *promises*, but wish them to judge by what we *do*.

"It is now bordering on ten years since this Journal was established, the first (by a priority of about two years) of any of this class of periodicals in existence, devoted to the subject of railways. We do not wish for a moment to make a boast of age, but surely, if there be any merit in long tried services, that at least is due to us. As a rumor has been attempted to be put in circulation with a view to injure the reputation of the Journal, to the effect that a party, whose name is known to the public as a partizan of particular railways, is connected with this Journal, it may be as well to mention, that the rumor is about as well founded, as that which sometime ago gave out that the steeple of St. Paul's was toppling over; the Journal is now, and likely to remain, in the same hands as those which conducted it within a few months of its establishment, in May, 1835.

"The past year has been so prolific in bringing forth schemes for new railways, that it has been a difficult matter indeed, to keep pace with them. And when it is considered that the brains of a host of projectors have been actively at work, to produce as many schemes as their heated imaginations could well depict, it may be readily understood that to individual capacity, the task of following the productions of such an amount of collective labor was a pretty difficult and all absorbing one. In fact, it was found to be next to an impossibility, to obtain anything like a correct knowledge of a great number of them, without a personal inspection, the prospectuses furnishing in general, but *ex parte* statements, and in several of those pretty little painted pictures, called railway maps, errors being discovered of a serious delusive character. It was, therefore, thought desirable, that Mr. Herapath should undertake, as far as in his power lay, the duty of instiuting a personal inquiry into the soundness and prospects of the new undertakings, as much with the view of satisfying ourselves, as for the immediate information of the public. This duty has been in part accomplished, and as far as the inquiry has gone, we have every reason to feel satisfied with the results, and, we believe the public—at least that portion of it which we represent—are so too. The inquiry has been attended with considerable expense,but we have not hesitated to make pecuniary sacrifice, for an object of so much importance to our readers, as correct information. The difficulties in the way of the inquiry, it was anticipated at the outset, would be great, but we did not at all imagine that they were of the formidable character they have turned out to be; these difficulties, however, have consisted not so much in discriminating when fair investigation was allowed, as in obtaining fair access to the facts. Where inquiry was most required, there in general appeared the greatest disinclination to admit

it in the manner requested. A custom house officer coming suddenly down upon a parcel of illicit traders could not have been received in a more unwelcome spirit than was Mr. Herapath, by a *few* of the parties who figured as the promoters of new railways. Where matters have been honestly conducted there should be nothing to conceal. Of the few who have withheld the necessary information time will show, and that quickly, whether they have done so without an object; and whether the information respecting them, of necessity indirectly ascertained, is unfounded. Although the rare incidents of this nature which have occurred are unpleasant, we think it will be discovered they are not of less value to the railway public than those of a more agreeable kind; nay, perhaps more so. Out of so many schemes, two hundred and fifty-nine (see "Journal" for Dec. 14th, p. 1,503,) it may be of more importance to learn which among them are faulty, than what are the merits and features of those that are sound. However, whichever way the balance be, Mr. Herapath has labored in both, and on the whole, we cannot but express our gratification of the results obtained.

"Mr, Herapath will, should nothing of an unforseen nature intervene to prevent him, proceed in the course of a few weeks to Dublin, to make experiments on the Dalkey line and further investigate the atmospheric system.

"Stirring and many important events in the railway world have marked the past year; we hope shortly to be enabled to give some review of them.

"This, the first month of the new year, we expect will be crowded with meetings, preparatory to the next session, as well as to relieve, in some measure, the business of those which usually take place at a later period, in February and March, when parliament will have met. We hope to be fully prepared with arrangements that will enable us to supply our subscribers with the first and best of information.

"With these few observations we bid adieu to the old year, and greet the new, with energies prepared to meet the abundance of labor we know it will unfold."

ATLANTIC AND ST. LAWRENCE RAILROAD.

Mr. John Neal, in one of his interesting letters on the Montreal railroad, has confounded the "duty" with the "toll" on wheat. American wheat going to England, via the St. Lawrence, pays a duty of three shillings sterling per quarter to the province; it is then admitted into England on paying the almost nominal duty of one shilling; so that the total duty on American wheat via the St. Lawrence is only four shillings per quarter, or twelve cents per bushel, of which nine cents go into the provincial, and three cents into the imperial treasury. (The duty on potatoes imported into this country, is ten cents per bushel; and on wheat twenty-five cents per bushel; still vast quantities of the former are imported from England, France and the neighboring provinces!) Mr. Neal has pointed out an error in the Journal in speaking of the million of bushels of wheat carried into Boston annually. By Boston we meant New England, but even here we were wrong, for a friend informs us that the total consumption of New England is only 800,000 barrels. Had we known this earlier, it would have modified our remarks in the last Journal on the smallness of the flour trade to Boston via the Western railroad.

Our ideas on the subject of the public works of Canada are well known to our readers. We believe it will be some time before even the Welland will pay interest and expenses; as to the St. Lawrence canal there is no hope. How Mr. Neal expects to rival the route, via the Hudson and Oswego to Upper Canada, by the railroad to Montreal and thence by the St. Lawrence canals to lake Ontario, is past our comprehension. All Upper Canada will be supplied from New York from six to eight weeks earlier than the opening of the St. Lawrence between Kingston and Montreal. In saying this we merely wish to point out to Mr. Neal, that he is injuring his cause by overrating its advantages, than which, nothing is more dangerous to a new project. The great advantage of the Portland route is that it is the shortest; this is an advantage of the utmost importance, and if the difference actually be 100 miles, as has been stated, then will it be hard indeed for Boston to compete with that route for the trade of Montreal. We would also inform Mr. Neal that such assertions as "it is admitted by the Railroad Journal, of New York," etc., will do us no harm and his cause no good. All those who have given attention to these subjects for any length of time, know that the *Journal* was the first—not to *admit*—but to *point out* the vast advantages of the contemplated Great Western railroad, and we will cheerfully accept any better statement of the benefits to be conferred on the western trade by the Welland canal than is to be found in our Journal some years back. If this be the *New York*, and not the *American* Railroad Journal, then have we most lamentably failed in our main object; and we confess that, after our numerous articles and notices of the Montreal railroad during the last three or four months, we did not expect to be very ingeniously quoted as adverse to any route not in this State. We repeat that, by promising everything, the Portland project will be seriously injured, and that if he undertake to connect *its* success in any way with the success of the St. Lawrence canal, he will sink it in the estimation of all those who understand that work and the western trade. Besides this, however, we gave the Portland committee some very important advice, the value of which, we much fear, they will fully appreciate when too late.

GREAT WESTERN RAILWAY OF CANADA.

We find in a late number of the Oswego Palladium an account of a meeting at Goderich—near the outlet of lake Huron, we believe—to again draw public attention to this great project. The peculiar advantages of a railroad connecting lakes Erie and Huron, or St. Clair formed the subject of a paper in this Journal a few years ago. Since that time, however, the board of works has been established, and, acting in conformity with the fixed usage here among similar bodies, has commenced a course of similar engineering: that is, they in every way discourage all attempts at private enterprize, and spend the money of the public on some job of their own, or on undertakings which their ignorance of the trade and resources of the country, as well as of the principles of engineering necessarily turn into failures. Now, when the money of the province is pretty nearly gone, we find the people of Canada east and west suddenly seized with the railway fever in the very depth of winter. We are glad to see this, even at this late hour, because it will ultimately lead to the true course to success.

It has always appeared strange to us, that the government, or some leading men in the province, did not, and indeed do not now, bring this project to the attention of British capitalists. It is entirely free from all the objections to being in any way dependent on the good faith of government, or on legislation, beyond the mere charter: it must command at once, and forever, an immense business, for its natural advantages render competition impracticable. The magnitude of the undertaking also is not such as to present insuperable difficulties, though the amount required would still be large; perhaps not less than the estimated cost of the Welland canal, about four millions of dollars for a continuous line from Hamilton to Detroit. The meeting referred to of course look to a termination on lake Huron, and a branch from some convenient point—perhaps London—would not only accommodate the business of the country, but also a large number of passengers for the north-west, and a great amount of freight in both directions. Indeed we are not sure that flour cannot be delivered at Oswego or Kingston from lake Huron via Goderich and Hamilton, quite as cheaply as via the St. Clair river and lake, the Detroit river, lake Erie and the Welland canal. As regards time, the valuable spring trade, and facility of navigation, there can be no comparison; generally speaking, goods would reach Chicago and

produce thence would reach Oswego before the opening of the Erie or Welland canals.

These are, it appears to us, the leading advantages of a railway to lake Huron, but for *the great American thoroughfare*, the shortest line to Detroit is the only one. It will make a nearly direct line from Boston to Chicago, and, as we understand that it goes through the best part of the Province, it will have a large Canadian way business, in addition to the vast income it must derive from the American "through travel" which awaits, and will continue to await the opening of the best route to the west.

NEW YORK AND ERIE RAILROAD.

In another page will be found an account of a meeting at Buffalo, at which the New York and Erie railroad was spoken of as necessary to secure a good route to this city by the wholesome competition which it would excite. In the *Carbondale Mirror* we notice also the petition of inhabitants of Pennsylvania in favor of their legislature granting the company permission to locate parts of their railway in that State. Its importance is very generally admitted here, though there appears little desire to subscribe to any extent. We regret, however, to observe, that Mr. Baker, in his report to the canal commissioners, makes some statements which say very little for the regard of the company for their duty to the State, to the shareholders, or to the responsible and respectable position in which they are placed. According to Mr. Baker's view of the case, they are throwing away all the advantages conferred on them by the State, by neglecting certain provisions, which neglect places them entirely at the mercy of the legislature, besides giving twofold energy to their numerous enemies. It is lamentable also to see such communications as appeared lately in one of the principal morning papers, obviously by authority, for the views there presented are followed up in several subsequent editorial articles, in more reputable style, of course. This unfortunate production contains a violent attack on the *Miners' Journal*, for the article given at length in our last from that well conducted paper, on the petition of the company to the legislature of Pennsylvania. Whether that article warrants anything of the sort, our readers must determine for themselves; also, whether or not we answered it in the right spirit. These may appear trivial circumstances to some, but it becomes a company, which has not merely a character to establish, but a large load of odium to work off, to be careful in provoking the hostility of any—more especially of those whose established character and superior ability renders their—the company's—supposed invective and sarcasm utterly harmless. The report of 1841 contained some passages very similar to many in the article above alluded to. A careful perusal—indeed a study of the reports of the Western and Worcester railroad corporations, engaged in an *actual* controversy, would be of service; an adoption of the calm and dignified style of the report of Messrs. Allen and Brown would aid the efforts of the company with the legislature and with the educated classes of the community, on whom they, after all, must depend.

TENTH ANNUAL REPORT OF THE BOSTON AND MAINE RAILROAD.

Since the last annual report, the Boston and Maine railroad, and the Maine, New Hampshire and Massachusetts railroad corporation have been united by the acceptance of the various acts passed for that purpose by the legislatures of Maine, Massachusetts and New Hampshire, on the part of the stockholders of the two corporations.

The total amount of the capital stock of the Boston and Maine railroad paid in on Nov. 30, 1844, including the capital stock of the Maine, New Hampshire and Massachusetts railroad corporation, now united with the Boston and Maine railroad....	$1,240,441	76
Of this sum there has been received during the year ending Nov. 30th, 1844.....	102,929	00
Received from sale of land.....	60	00
Amount refunded to the corporation, under the contract for rails.....	1,641	16
Total.....	$104,630	16
Amount expended for the construction of the road in Massachusetts.....	505,907	76
Amount expended for the construction of the road in New Hampshire...	798,616	74
Amount expended for the construction of the road in Maine.....	65,182	12
Cost of engines and cars.....	115,754	31
Total.....	1,485,460	93
Of these amounts there has been expended in Massachusetts during the past year.....	7,253	98
Expended during the same period in New Hampshire.....	12,107	53
Do. do. do. Maine.....	1,528	80
Expended for new engines and cars..	16,867	58
Total.....	37,757	89

The other expenditures of the corporation during the year ending November 30, 1844, have been as follows:

Repairs of road in New Hampshire..	4,948	31
" " Massachusetts.....	4,951	57
" engines and cars.....	16,010	54
Fuel, oil, salaries and miscellaneous expenses.....	43,106	39
Amount paid to the Boston and Lowell railroad company.. 39,911 36		
Amount paid to the Portland, Saco and Portsmouth railroad company..... 13,055 55		
Amount paid to the Concord railroad company..... 262 47	53,229	38
Balance of interest.....	9,414	45
State tax and other taxes.....	5,375	50
Total.....	137,036	14

The income of the corporation during the year ending November 30, 1844, has been as follows:

For transportation of passengers.....	154,944	54
" " merchandize.....	70,670	14
Miscellaneous receipts.....	7,486	36
Total.....	233,101	04
A dividend of three dollars per share has been declared, payable July 1, 1844, amounting to.....	39,708	00
A dividend of three and a half dollars per share has been declared, payable January 1, 1845, amounting to.....	46,693	50
Total.....	86,401	50

The number of miles run by locomotive engines over the Boston and Maine railroad during the same period of time, was as follows:

Passenger trains.....	132,300
Merchandize trains.....	35,796
Total.....	168,096

In addition to the above the trains of this corporation have run over the Boston and Lowell railroad, drawn by their locomotives, as follows:

Passenger trains.....	31,830 miles.
Merchandize trains.....	9,420 miles.
Total.....	41,250 miles.
The passenger trains of this corporation have run over the Portland, Saco and Portsmouth railroad, in connection with the trains of that company.....	47,728 miles.

STEAM BOAT LOPER.

This little steamer, destined for the trade of the Dismal Swamp canal, in North Carolina, made an experimental trip yesterday, previous to her final departure for the scene of her usefulness. That this experimental trip was in the highest degree satisfactory to both her owners and constructors, the following record of her performance will suffice.

The "Loper" left the navy yard shears at 13 minutes before 1 o'clock, and was abreast of fort Mifflin, a distance of eight miles, by government survey, at 7 minutes before 2 P. M.; and this too against a heavy head wind and the flood tide.

After rounding to, and passing abreast of the fort at 1½ minutes of 2 P. M., she arrived at the shears at 20 minutes before 3 o'clock.

Taking into consideration that this was but an experimental trip, with new machinery, propellers, etc., we cannot but assert that in every respect it is a great performance; one, too, calculated to reflect credit upon all concerned. To say that sixteen miles were accomplished by an ordinary propeller canal boat, with and against a Delaware flood tide, in 106 minutes, is no mean praise. Need we say more than that the machinery, hull, etc., are from Merrick and Towne, and that her propellers are those of Captain Loper, to account for the successful result of the trial of the boat to which we allude.

This result adds another to the many proofs previously recorded, that the Loper propeller will of necessity make its way among those requiring the means of propelling boats for transportation on rivers and canals.

The engine of the boat to which we allude is of the manufacture of Messrs. Merrick and Towne, of Southwark. Their name alone is a tower of strength, to those who would have work of the kind. We would not thus have spoken of this boat, but that in bidding her good speed, we should give credit to all concerned in her construction.—*U. S. Gaz.*

EXPLOSION OF A LOCOMOTIVE ENGINE BOILER, IN AMERICA.

Dr. Lardner's Report on the cause of the Explosion, with Remarks, by Charles Hood, Esq., F.R.S., F.R.A.S., &c.

The account of an explosion of a locomotive engine while working on a railway in Pennsylvania, has lately been published, together with a report by Dr. Lardner on the cause of the accident. The results are in several particulars extremely similar to those of the late accident on the Dover Railway, though the cause appears to be dissimilar in the two cases.

Dr. Lardner investigated all the circumstances attending the supply of water, the perfect action of the safety valves, and other circumstances likely to be instrumental in producing the accident; but he found sufficient evidence of the perfect action of the engine in every particular. After a lengthened inquiry into all the causes which could produce the result, he arrived at the conclusion that the lightning flash had suddenly heated the boiler to a high temperature, and that steam of immense elasticity was instantaneously generated, which had thus burst the boiler and produced the effects described.

This conclusion of Dr. Lardner's does not appear to me to be warranted by the facts; and I shall offer a few observations on the subject.

Adam Smith has quaintly described a philosopher to be a man whose business is to do nothing and to speculate on every thing. Nevertheless these speculations are extremely useful, except when they tend to satisfy inquiries by false reasoning. They then retard the progress of science by diverting the mind from the real track of discovery by substituting ingenious reasoning for practical deductions. Of this character appears to be the explanation so often given of the explosion of steam boilers, ascribing it to the sudden generation of steam of immense elasticity by overheated metallic surfaces. No facts have ever proved the correctness of this theory; and many cogent reasons can be adduced against it. In the present case, however, the facts appear directly opposed to this explanation; while a very sufficient explanation can be otherwise given.

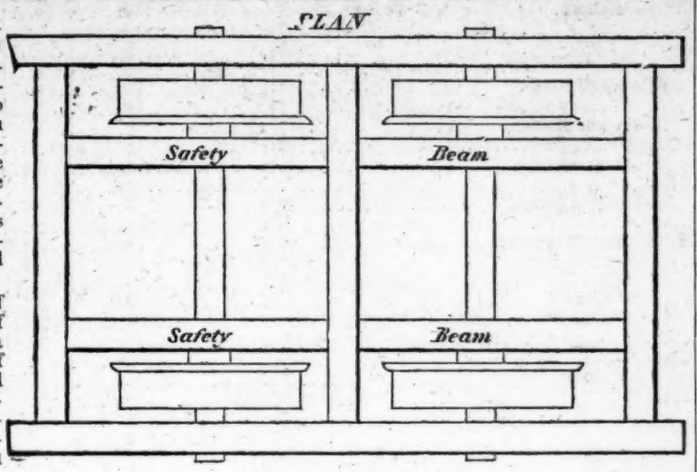
The mechanical force of the lightning was sufficient after it had spent its fury on the engine, to cut or break the solid rails. The working parts of the engine were bent and broken in every direction; while the holes in the fire box, with the edges turned inwards, clearly shew the place where the lightning entered. That the lightning rent the crown of the fire box from the sides, is the obvious conclusion; and if this were done, the reaction of the steam of the ordinary elasticity used in locomotive boilers would act like a rocket, and be quite sufficient to carry away the boiler in the manner described, as the result of many boiler explosions has already proved. Dr. Lardner grounds his opinion upon the clear evidence of the action of steam, in the effect produced; but we do not require the presence of steam of greater density than that of ordinary locomotive engines, provided the rent made in the fire-box were sufficiently large to produce all the effects which are described. The absence of all appearance of the metal being overheated, which Dr. Lardner has described, is also against the theory he has propounded; while the mechanical disruption of the fire-box, by the passage of the lightning from the outer to the inner case, is what might be expected to arise from the peculiar construction of that part in so violent a shock as occurred in the present instance. The additional vent given to the steam through the three large holes made by the lightning in the sides of the fire-box is also an additional reason against the supposition of the rupturebeing caused by preesure of steam; while it is also probable that had the rupture of the fire-box been produced by this pressure of steam instead of by the mechanical action of the lightning, the rupture would have taken place immediately at the part weakened by the three large holes already described, instead of at the crown of the fire-box as was found to be the case.—*Herapath's Journal.*

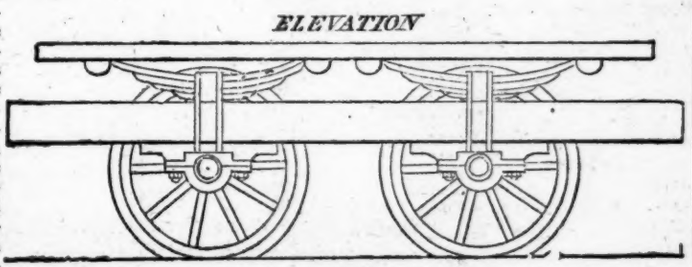
THE IRON STEAMER, "Princess Maude," took the copy of the speech of the King of the French, on opening the French Chambers, across, and was back again at Boulogne by 7, having made two voyages in four hours. She started again at 10, with a great number of passengers, for Folkestone, and returned to Boulogne, for the second time, at 3, having crossed the Channel four times in twelve hours, four out of which were spent in port at Folkestone or Boulogne.

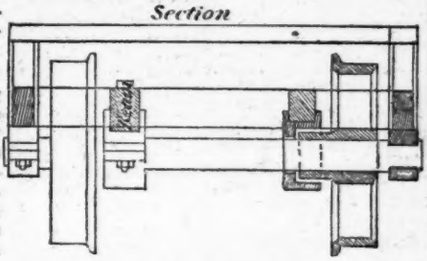
The Pittsburgh Gazette says that a bill has passed the lower House of the Ohio Legislature, reviving and amending the Act to incorporate the "*Cleveland and Pittsburgh Railroad Company*," and adds—

"This is an important move for Pittsburgh, as, if we succeed in securing the terminus of the Baltimore Railroad, the road to the Lakes would be an object of trade requiring a rapid and continuous connection between Pittsburgh and the Lake country."

KITE'S PATENT SAFETY BEAM.







MESSRS. EDITORS.—As your Journal is devoted to the benefit of the public in general I feel desirous to communicate to you for publication the following circumstance of no inconsiderable importance, which occurred some few days since on the Philadelphia, Wilmington and Baltimore railroad.

On the passage of the evening train of cars from Philadelphia to this city, an axle of our large 8 wheeled passenger car was broken, but from the particular plan of the construction, the accident was entirely unknown to any of the passengers, or, in fact, to the conductor himself, until the train, (as was supposed from some circumstances attending the case,) had passed several miles in advance of the place where the accident occurred, whereas had the car been constructed on the common plan the same kind of accident would unavoidably have much injured it, perhaps thrown the whole train off the track, and seriously injured, if not killed many of the passengers.

Wilmington, Del., Sept. 28, 1840.

☞ The undersigned takes pleasure in attesting o the value of Mr. Joseph S. Kite's invention of the Safety Beam Axle and Hub for railroad cars. They have for some time been applied to passenger cars on this road, and experience has tested that they fully accomplish the object intended. Several instances of the fracture of axles have occurred, and in such the cars have uniformly run the whole distance with entire safety. Had not this invention been used, serious accidents must have occurred.

In short, we consider Mr. Kite's invention as completely successful in securing the safety of property and lives in railroad travelling, and should be used on all railroads in the country.

JOHN FRAZER, Agent, JAMES ELLIOTT, Sup. Motive Power,
GEORGE CRAIG, Superintendant, W. L. ASHMEAD, Agent.

☞ A model of the above improvement is to be seen at the New Jersey railroad and transportation office, No. 1 Hanover st., N. York. ja45

NEW JERSEY RAILROAD AND TRANSPORTATION COMPANY.

Length of Road, 33 96-100 miles. Capital, $2,000,000.
JOHN S. DARCY, Esq., President. ROBERT SCHUYLER, Esq., Vice President,
J. P. JACKSON, Esq., Secretary. J. WORTHINGTON, Esq., Treasurer.

Leave New York, foot of Courtland street.	DAILY. A. M.	DAILY. P. M.	SUNDAY. A. M.	SUNDAY. P. M.
For Newark	9, 11, 12	2, 3, 4 3-4, 6, 7 1-2	9	4 3-4
" Elizabethtown	9, 11	2, 3, 4 3-4, 6		
" Rahway	9, 11	3, 4 3-4, 6		
" New Brunswick	9	3, 4 3-4		
Leave New Brunswick	6, 7 1-2, 11 1-2	8 3-4	11 1-2	8 1-2
Rahway	6 3-4, 7, 8 1-4, 12	4 3-4, 9 1-4		
Elizabethtown	7, 7 1-2, 8 1-2, 10 1-2, 12	3 1-2, 5		
Newark	7 1-2, 8 1-4, 9, 11	1 1-2, 4, 5 1-2, 7, 9 3-4	11 3-4	9 3-4
For New York.				

9 A. M. and 3 P. M. to meet the Morris and Essex trains, and 9 A. M. and 4 3-4 P. M. to meet the Somerville train, and for Philadelphia.

TABLE OF DISTANCES AND FARES.

	New York. Miles.	New York. Cents.	Newark. Miles.	Newark. Cents.	Elizabethtown. Miles.	Elizabethtown. Cents.	Rahway. Miles.	Rahway. Cents.	N. Brunswick Miles.	N. Brunswick Cents.
New York			9 1-4	25	14 1-2	31 1-4	19 3-4	31 1-4	31 1-2	50
Newark	9 1-4	25			5 1-2	12 1-2	10 1-2	25	22 1-2	50
Elizabethtown	14 1-2	31 1-4	5 1-2	12 1-2			5	12 1-2	16 3-4	50
Rahway	19 3-4	31 1-4	10 1-2	25	5	12 1-2			11 3-4	37 1-2
New Brunswick	31 1-2	50	22 1-2	50	16 3-4	50	11 3-4	37 1-2		

TRAINS LEAVE	FOR	BY RAILROAD	DAYS.	A. M.	P. M.	MILES.	FARE.
Boston	Portland	Eastern,	Daily,	7½,	2½,	106	$3 00
"	Portsmouth	"	"	7½,	2½, 4½,	54	2 00
"	Newburyport	"	"	7½,	2½, 4½,	35	1 25
"	Salem	"	"	7½, 9, 11¾,	2½, 3½, 4½, 6,	14	50
"	Portland	Boston and Maine,	"	7½,	2½,	109	3 00
Portland	Boston	" " "	"	7½,	3,	109	3 00
Boston	Lowell	Boston and Lowell,	"	7, 11,	2, 5,	26	75
Lowell	Boston	" " "	"	7½, 11,	2, 4½, 5½,	26	75
Boston	Concord	Concord,	"		3½,	76	2 00
Concord	Boston	"	"		3½,	76	2 00
Boston	Nashua	Nashua and Lowell,	"	7, 11,	5,	41	.....
Nashua	Boston	" " "	"	6½,	1½, 5,	41	.....
Boston	Worcester	Boston and Worcester,	"	7, 9,	2½,	44	1 25
Worcester	Boston	" " "	"	7, 10,	6,	44	1 25
"	"	" " "	Sundays,	7,		.....	.....
Boston	Worcester	" " "	"		2,	.....	.....
Boston	New York via Norwich	" " "	Mon., Wed. & Fri.,		4,	.....	.....
"	" " L. Island railroad	" " "	Tues., Thur. & Sat.,	7,		.....	.....
"	" " New Haven	" " "	Daily,	9,	2½,	.....	.....
"	Albany	Western,	"	9,	2½,	200	6 00
Albany	Boston	"	"	8½,	1¾,	200	6 00
Springfield	Boston and Albany	"	"	7,	3,	.....	.....
Boston	New York via New Haven	"	"		2½,	.....	.....
Charlestown	West Acton	Fitchburg,	"	8,	1, 4½,	.....	.....
West Acton	Charlestown	"	"	7½, 10¼,	5,	.....	.....
Boston	New York, via Sound steamboat	Boston and Providence,	Tues., Thur. & Sat.,		4,	.....	.....
"	" " L. Island railroad	" " "	Mon., Wed. & Fri.,	8,		.....	.....
"	Providence	" " "	Daily,	8,	3½,	41	1 50
Providence	Boston	" " "	"	8,	3½,	41	1 50
Taunton	"	" " "	"	8½,	3½,	.....	.....
New Bedford	Boston	" " "	"	7½,	2½,	.....	.....
Boston	Dedham	" " "	"	9,	3, 5½,	.....	.....
Dedham	Boston	" " "	"	7½, 10½,	4½,	.....	.....
New York	Greenport	Long Island,	"	7½,		95	2 25
Brooklyn	Hicksville & intermediate places	"	"	9½,		26	56¼
"	Greenport " "	"	"	9½,		95	2 25
"	Hicksville, (Saturd'y to Suffolk)	"	Tues., Thur. & Sat.,		4,	26	56¼
Greenport	Brooklyn, (Boston train)	"	Daily,		1,	95	2 25
"	" (accommodation do.)	"	"			95	2 25
Hicksville	" & intermediate places	"	Mon., Wed. & Fri.,			26	56¼
New York	Albany & Boston via N. Haven	Steamer,	Daily,	7,	1½,	.....	5 00
"	Middletown	New York and Erie,	"	6½,		.....	.....
Middletown	New York	" " "	"	8, 3,		53	.....
Philadelphia	Pottsville	Reading,	"	6½,	3½,	53	.....
Pottsville	Philadelphia	"	"	9,		94	3 50
New York	Newark	N. J. railroad and trans. co., [9 A. M. *and* 3 P. M., *connect with Morris Railroad.*]	"	9,		94	3 50
Newark	New York		"	9, 11, 12,	2, 3, 4½, 6, 7½,	9¼	25
"	"		"	7½, 8½, 9, 11,	1½, 4, 5½, 7, 9½,	9¼	25
New York	Newark	[9 A. M. *and* 4½ P. M., *trains, connect with Somerville Railroad.*]	Sundays,	9,	4½,	9¼	25
"	Elizabethtown		"	11¾,	9½,	9¼	25
Elizabethtown	New York		Daily,	9, 11,	2, 3½, 4½, 6,	14½	31¼
New York	Rahway	N. J. railroad and trans. co.,	"	7, 7½, 8½, 10½, 12,	3½, 5,	14½	31¼
Rahway	New York	" " "	"	9, 11,	3, 4½, 6,	19¼	31¼
New York	New Brunswick	" " "	"	6¾, 7, 8½, 12,	4½, 9½,	19¼	31¼
New Brunswick	New York	" " "	"	9,	3, 4½,	31½	50
"	"	" " "	"	6, 7½, 11½,	8½,	31½	50
New York	New Brunswick	" " "	Sundays,	11½,	8½,	31½	50
Philadelphia	New York	Camden and Amboy,	"	9,	4½,	31½	50
New York	Philadelphia	" " "	Daily,	7,		91	3 00
Philadelphia	Bristol	Philadelphia and Trenton,	"	5½,		91	3 00
Bristol	Philadelphia	" " "	"	9,		30	75
Philadelphia	Baltimore	Philad. Wil. and Baltimore,	"		4,	30	75
Baltimore	Philadelphia	" " "	"	8,	4,	93	.....
"	Washington	Baltimore and Washington,	"	9,	8,	93	.....
Washington	Baltimore	" " "	"	9,	5, 11¾,	41	2 50
Baltimore	Cumberland and inter. places	Baltimore and Ohio,	"	6,	5½,	41	2 50
"	Frederick " "	" " "	"	7½,		.....	.....
Cumberland	Baltimore	" " "	"		4,	.....	.....
Hancock	"	" " "	"	8,		.....	.....
Martinsburg	"	" " "	"	10½,		.....	.....
Harper's Ferry	"	" " "	"	11½,		.....	.....
Frederick	"	" " "	"		12½,	.....	.....
"	"	" " "	"		2,	.....	.....
Ellicott's Mills	"	" " "	Sundays,	8,		.....	.....
Richmond	Petersburg	Richmond and Petersburg,	Daily,	7½, 12,	4½,	.....	.....
Petersburg	Richmond	" " "	"	10½,	1½,	.....	.....
Albany	Schenectady	Mohawk and Hudson,	"	5¾,		.....	.....
Schenectady	Albany	" " "	"	8,	5½,	.....	.....
Albany	Saratoga	" " "	"	9,	3½,	.....	.....
Saratoga	Albany	" " "	"	7½,	2,	.....	.....
Troy	Saratoga	Troy and Saratoga,	"	7,	12½, 5,	.....	.....
Saratoga	Troy	" " "	"		3½,	.....	.....
Auburn	Rochester	Auburn and Rochester,	"	7½,		.....	.....
Rochester	Auburn	" " "	"	8½,		.....	.....
"	Buffalo	Rochester and Buffalo,	"	8,	3,	.....	.....
Buffalo	Rochester	" " "	"		3,	.....	.....
"	Falls	Buffalo and Falls,	"			.....	.....
Falls	Buffalo	" " "	"	9,		.....	.....
Buffalo	Albany	Albany and Buffalo	"		1½,	.....	.....
			"	8½,		.....	.....